Australian Government

UEG11 Gas Industry Training Package

Release: 1.1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

CONTENTS

UEG11 Gas Industry Training Package

Modification History

Modification History

The version details of this endorsed Training Package are found in the table below. The latest information is at the top of the table.

Version	Release Date	Authorisation	Comments
1.1 **UEG11**		**ISC Upgrade**	**Qualifications amended** The following qualifications have been amended to include updated imported units, electives and editorial changes. UEG20211; UEG20311; UEG20411; UEG20511; UEG30211; UEG40311; UEG50211; UEG60211. **The following imported units were added** BSBWHS301A; CPCPCM4012A, HLTCPR211A **The following imported units were updated** BSBWOR301B; BSBCUS401B; BSBWHS501A; HLTFA311A; HLTFA302C; UEPOPS203B; UEPOPS205B; UEENEED101A; UEENEEE117A; UETTDREL14A; UETTDREL15A **The following imported units were updated to the current release:** UEENEEC001B; UEENEEE101A; UEENEEE102A; UEENEEE107A; UEENEEM020A; UEENEEM076A; UEENEEM080A;
UEG11	**TBC**		**The following qualifications were**

Version	Release Date	Authorisation	Comments
Version 1			**added:** UEG20211; UEG20311; UEG20411; UEG20511; UEG30211; UEG40311; UEG50211; UEG60211 **The following qualifications were deleted:** UEG10106; UEG20106; UEG30110; UEG40106; UEG40206; UEG50106; UEG60106 **The following new units were added:** UEGNSG003A; UEGNSG125A; UEGNSG128A; UEGNSG131A; UEGNSG212A; UEGNSG213A; UEGNSG214A; UEGNSG215A; UEGNSG320A; UEGNSG321A; UEGNSG322A; UEGNSG323A; UEGNSG324A; UEGNSG325A; UEGNSG326A; UEGNSG327A; UEGNSG328A; UEGNSG329A; UEGNSG613A; UEGNSG704A **The following units were removed:** USGNSG001A; UEGNSG101A; UEGNSG103A; UEGNSG124A; UEGNSG201A; UEGNSG211A; UEGNSG303A; UEGNSG601A; UEGNSG802A; **The following units were amended including editorial changes (see below)** UEGNSG102B; UEGNSG104B; UEGNSG105B; UEGNSG106B; UEGNSG107B; UEGNSG108B; UEGNSG109B; UEGNSG110B; UEGNSG111B; UEGNSG112B; UEGNSG113B; UEGNSG114B; UEGNSG115B; UEGNSG116B; UEGNSG117B; UEGNSG118B; UEGNSG119B; UEGNSG120B; UEGNSG121B; UEGNSG122B; UEGNSG123B; UEGNSG202B; UEGNSG203B; UEGNSG204B; UEGNSG205B; UEGNSG206B; UEGNSG207B; UEGNSG208B;

Version	Release Date	Authorisation	Comments
			UEGNSG209B; UEGNSG210B; UEGNSG301B; UEGNSG302B; UEGNSG304B; UEGNSG305B; UEGNSG306B; UEGNSG307B; UEGNSG308B; UEGNSG309B; UEGNSG310B; UEGNSG311B; UEGNSG312B; UEGNSG313B; UEGNSG314B; UEGNSG315B; UEGNSG316B; UEGNSG317B; UEGNSG318B; UEGNSG319B; UEGNSG401B; UEGNSG402B; UEGNSG501B; UEGNSG502B; UEGNSG503B; UEGNSG504B; UEGNSG505B; UEGNSG602B; UEGNSG603B; UEGNSG604B; UEGNSG605B; UEGNSG606B; UEGNSG607B; UEGNSG608B; UEGNSG609B; UEGNSG610B; UEGNSG611B; UEGNSG612B; UEGNSG701B; UEGNSG702B; UEGNSG703B; UEGNSG801B; **The following imported units were added to UEG11 Version 1:** BSBFLM305C; BSBFLM306C; BSBFLM309C; BSBFLM311C; BSBINN301A; BSBCUS401A; BSBINM401A; BSBLED401A; BSBMGT402A; BSBMGT403A; BSBWOR401A; BSBWOR402A; BSBWOR404A; BSBCUS501A; BSBINM501A; BSBINN502A; BSBLED501A; BSBMGT502A; BSBMGT515A; BSBMGT516C; BSBOHS509A; BSBWOR501B; BSBWOR502B; CPCCLDG3001A; CPCCIRG3001A; CPCCLRG3002A; CPCCOHS1001A; HLTFA301C; HLTFA302A; RIIMPO308A; RIIMPO309A; RIIMPO318A; RIIMPO319A; RIIHAN309A; TLIC2025A; TLILIC2016A; TLIF2012A; TLILIC3017A; TLILIC3006A; TLILIC0012A; TLILIC3008A; TLILIC4009A; UEPOPS203A; UEPOPS205A;

Version	Release Date	Authorisation	Comments
			UETTDREL04B; UETTDREL05B; UEENEEC001B; UEENEED001B; UEENEEE017B; UEENEEE101A; UEENEEE102A; UEENEE107A **The following imported units were removed from UEG11 Version 1:** BCG1004A; BSBCMN105A; BSBINM201A; BSBCMN209A; BSBINM301A; BSBITU306A; BSBCUS301A; BSBCMN311B; BSBCMN402A; BSBCMN411A; BSBFLM405B; BSBFLM501B; BSBFLM503B; BSBFLM506B; BSBFLM505B; BSBFLM509B; BSBFLM510B; BSBFLM512A; BSBMGT505A; BSBMGT507A; TLILIC108A; TLILIC1609A ; TLILIC1709A; PMAOPS205A; PMAOPS221A; PMAOPS223A; PMAOPS230A; PMAOPS304A; PMAOPS340A; UEPOPS412A; UEPOPS415A; UEPOPS417A; UEPOPS508A; UEPOPS348A; UEPOPS423A; UEPOPS350A; UEPOPS513A; UEPOPS506A; UEENEEE002B; UEENEEE005B; UEENEEE007B; UEENEEE008B **Editorial changes to Endorsed Units.** Removal of spaces in any of the unit or qualification codes. Replace 'Version No in all footers across the whole Training Package. 3. For all Units: Change all Unit suffixes for version 1 units from 'A' to 'B'

Version	Release Date	Authorisation	Comments
			Add '1.1 Descriptor' as a new title Move '3.1 License to practise' to position 1.2 Move the sub-heading '2.1 Competencies' from the left hand column to the right hand column Move the sub-heading '2.2 Literacy and Numeracy skills' from the left hand column to the right hand column Include '3) Employability Skills' and text therein as a whole new section Revise the numbering of all subsequent sections to accommodate the inclusion of the Employability Skills section at 3) Include "All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies" as a new paragraph in '7) Required Skills and Knowledge' Change all references to sections within a unit to reflect the correct section (may require change as a result of the inclusion of the Employability Skills section at 3). Completely remove the 'Key Competencies' and 'Skills Enabling Employment'

Version	Release Date	Authorisation	Comments
			sections.
UEG06 Version 1.1	**8 October 2010**	**EE-Oz ISC Upgrade** Authorised by NQC to meet Packaging Rule requirements and the inclusion of Sustainability Skills in qualifications.	Modification of the following qualifications to comply with NQC Packaging Rules. UEG30110 Certificate III in Gas Industry Operations Update of Imported Units to current versions BSBINM201A BSBCMN311B BSBCUS301A BSBFLM303C BSBFLM312B BSBINM301A BSBITU306A BSBWOR301A TLILIC2001A TLILIC1609A TLILIC1709A UEENEEM080A; UEENEEM020A UEENEEM076A UEENEEE002B UEENEEE005B UEENEEE007B UEENEEE008B
UEG06 Version 1	**May 2006**	**NQC**	Primary Release of Revised Training Package replacing UTG98

Preliminary Information

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The Gas Industry

For the purposes of the Gas Industry Training Package, the term 'Gas Industry' refers to the industry which supplies natural gas via transmission and distribution pipelines, and Liquid Petroleum Gas (LPG) via cylinders, to a variety of domestic and manufacturing customers. It does not refer to the extraction of gas from its source, nor the installation or maintenance of gas appliances within domestic or manufacturing environments.
The Gas Industry is a major supplier of energy to Australian homes and factories, supplying around 30% of industry energy needs and 20% of domestic needs.
The technical operation of the Gas Industry requires the involvement of individuals who may be employed as:

- engineers
- technicians
- project managers
- line managers and supervisors
- field operatives

Employment within the industry may involve one or more of the following:

- design of transmission, distribution, processing and/or storage systems
- construction and maintenance of the above systems
- commissioning and decommissioning of the above systems
- metering and billing of customers.

Industry coverage

The formal industry coverage is under ANZSIC Code 3620 — the sector is defined as consisting of units mainly engaged in the manufacture of town gas from coal and/or petroleum or in the distribution of manufactured town gas, natural gas or the liquefied petroleum gas through a system of mains, including pipelines operated on own account. During the last few years there has been privatisation of many enterprises and the out-sourcing of many functions and activities. The Gas Industry contributes greatly to the economic needs of Australia. The section below 'The Gas Industry' provides detail.

Regulatory arrangements

The industry is subject to a high level of legislation, regulation, codes of practice, guidelines and advisory standards related to the research, assembly, installation, construction, diagnostics, maintenance, commission, program, test or repair of networks, systems, equipment, components, appliances, facilities and the like in the field of gas supply. The regulatory requirements are, typically, based on the principle of gas transmission and distribution involving equipment, apparatus and systems, public safety, safety and health of individuals who work on pipelines, tankers, truck, systems and apparatus/equipment and other codes and practices related to the environment in which they operate.

Where possible, relevant and current regulatory requirements have been incorporated into this Training Package to assure outcomes are complementary to regulation. Where regulatory requirements are amended or introduced such outcomes are to be incorporated in training and assessment delivery. Continuous improvement and maintenance arrangements included in this Training Package will try to keep pace with changes.

Statutes, regulations and codes of practice

Federal, State and Territory Gas, Electricity, Telecommunications, Anti discrimination, Occupational Health and Safety and Work Cover Acts and Regulations typically cover the Industry. Additionally, there are many Australian/New Zealand and International Standards, codes of practices and regulations that apply and to which observance is essential for assuring life, property and commerce. Thus, relevant legislative, regulatory codes of practice, guidelines and advisory standard requirements form an integral part of the obligatory requirements in the vocational standards found in this Training Package.

Other Industry Standards

It is recognised that the Gas Industry Standards do not cover all the competencies which are likely to be required and applied within Gas Industry workplaces. Nationally endorsed competency standards from other industries will be used where appropriate and the concept of cross-industry disciplinary standards will be encouraged. Specific rules have been included within this Training Package to address these arrangements.

Overview

Overview of Training Packages

What is a Training Package?

A Training Package is an integrated set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework (AQF) qualifications for a specific industry, industry sector or enterprise.
Each Training Package:

- provides a consistent and reliable set of components for training, recognising and assessing people's skills and may also have optional support materials.
- enables nationally recognised qualifications to be awarded through direct assessment of workplace competencies
- encourages the development and delivery of flexible training and assessment which suits individual and industry requirements
- encourages learning and assessment in a work-related environment which leads to verifiable industry outcomes.

How do Training Packages fit within the National Training Framework?

The National Training Framework applies nationally, is endorsed by the Ministerial Council for Vocational and Technical Education, and comprises the Australian Quality Training Framework (AQTF) and Training Packages endorsed by the National Quality Council (NQC).

How are Training Packages developed?

Training Packages are developed by Industry Skills Councils to meet the identified training needs of specific industries or industry sectors. To gain national endorsement of a Training Package, developers must provide evidence of extensive research, consultation and support within the industry area or enterprise.

How do Training Packages encourage flexibility?

Training Packages describe the skills and knowledge needed to perform effectively in the workplace, without prescribing how people should be trained.
Training Packages acknowledge that people can achieve vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it. For example, some experienced workers might be able to demonstrate competency against the units of competency, and even gain a qualification without completing a formal training program.
With Training Packages, assessment and training may be conducted at the workplace, off-the-job, at a training organisation, during regular work, or through work experience, work placement, work simulation or any combination of these.

Who can deliver and assess using Training Packages?

Training and assessment, using Training Packages must be conducted by an RTO that has the qualifications or specific Competency Standard Units on its scope of registration, or that works in partnership with another RTO as specified in the AQTF 2010.

Training Package Components

Training Packages are made up of mandatory components endorsed by the NQC and optional support materials.

Training Package Endorsed Components

The nationally endorsed components include the Qualification Framework, Competency Standards and Assessment Guidelines. These form the basis of training and assessment in the Training Package and, as such, they must be used.

Training Package Components

Competency Standards

Each Unit of Competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy and Occupational Health and Safety requirements. The Units of Competency must be adhered to in training and assessment to ensure consistency of outcomes.

Qualifications Framework

Each Training Package provides details of those competency standards that must be achieved to award AQF qualifications. The rules around which Units of Competency can be combined to make up a valid AQF qualification in the Training Package are referred to as the "packaging rules". The packaging rules must be followed to ensure the integrity of validating recognised qualifications issued.

Assessment Guidelines

The Assessment Guidelines provide an industry framework to ensure all assessment outcomes meet industry needs and the nationally agreed standards as expressed in the Training Package and the AQTF 2010. The Assessment Guidelines must be followed to ensure the integrity of assessment leading to nationally recognised qualifications.

Training Package Support Materials

The endorsed components of a Training Package are complemented and supported by optional support materials that provide for choice in the design of training and assessment to meet the needs of industry and learners.
Training Package support materials can relate to single or multiple units of competency, an industry sector, a qualification or the whole Training Package. They tend to fall into one or more of the categories illustrated below.

Training Package support materials are produced by a range of stakeholders such as RTOs, individual trainers and assesors, private and commercial developers and Government agencies.
Where such materials have been quality assured through a process of 'noting' by the NQC, they display the following official logo. Noted support materials are listed on the National Training Information Service (NTIS), together with a detailed description and information on the type of product and its availability (www.ntis.gov.au).

It is not compulsory to submit support materials for noting, any resources that meet the requirements of the Training Package can be used.
There are agreed conventions for the national codes used for Training Packages and their components. Always use the correct codes, exactly as they appear in the Training Package, and with the title always following the code.

Training Package Qualification and Unit of Competency Codes

There are agreed conventions for the national codes used for Training Packages and their components. Always use the correct codes, exactly as they appear in the Training Package, and with the code always before the title.

Training Package Codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example UEG11. The first three characters are letters identifying the Training Package industry coverage and the last two characters are numbers identifying the year of endorsement.

Qualification Codes

Within each Training Package, each qualification has a unique eight-character code, for example in this Training Package, UEG30211. Qualification codes are developed as follows:

- The first three letters identify the Training Package
- the first number identifies the qualification level (noting that, in the qualification titles themselves, Arabic numbers are not used)
- The next two numbers identify the position in the sequence of the qualification at that level; and
- The last two numbers identify the year in which the qualification was endorsed. (Where qualifications are added after the initial Training Package endorsement, the last two numbers may differ from other Training Package qualifications, as they identify the year in which those particular qualifications were endorsed).

Unit of Competency Codes

Within each Training Package, each competency standard unit has a unique code. Unit of Competency codes are assigned when the Training Package is endorsed, or when new units are added to an existing Training Package. Unit codes are developed as follows:

- A typical code is made up of a maximum of 12 characters; normally a mixture of upper-case letters and numbers. For example in this Training Package the following approach has been adopted:

- The first three characters signify the Training Package and up to eight characters, relating to an industry sector, function or skill areas follow.
- The last character is always a letter and identifies the unit of competency version. An 'A' at the end of the code indicates that it is the original unit of competency. 'B' or another incremented version identifier mean that minor changes have been made. Typically, this would mean that wording has changed in the range statement or evidence guide, providing clearer intent.
- Where changes are made that alter the outcome, a new code is assigned and the unit title is changed.

Training Package Qualification and Unit of Competency Titles

There are agreed conventions for titling Training Packages and their components. Always use the correct titles, exactly as they appear in the Training Package, and with the code always placed before the title.

Training Package Titles

The title of each endorsed Training Package is unique and relates to the industry's broad coverage.

Qualification Titles

The title of each endorsed Training Package qualification is unique. Qualification titles use the following sequence:

- first, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma or Advanced Diploma
- this is followed by the words 'in' for Certificates I to IV and 'of' for Diploma and Advanced Diploma
- then the industry descriptor follows, for example Gas Industry Operations and
- if applicable, the occupational or functional stream follows in brackets, for example (Computer Systems).

Unit of Competency Titles

Each Unit of Competency title is unique. Unit of Competency titles describe the competency outcome concisely, and are written in sentence case. For example:

- UEGNSG117A Plan and implement the data acquisition and metering requirements of a gas system
- FNBLIF29A Undertake risk assessment

The Gas Industry Training Package

Introduction to the UEG11 Gas Industry Training Package

The Training Package for the Gas Industry (UEG11) has been developed on behalf of the EnergyUtilities Industry and community stakeholders from all States/Territories of Australia by EE-Oz Training Standards, with the support of the Deaprtment of Education Employment and Workplace Relations (DEEWR). EE-Oz Training Standards operates under a charter from the Australian Government as a declared National ElectroComms and EnergyUtilities Industry Skills Council for the ElectroComms and EnergyUtilities Industry. EnergyUtilities Industry practitioners, regulators, government agencies and community stakeholders contributed much effort, support and knowledge in its development.

The first Training Package for this industry was released in 1998, as the Training Package for the Gas Industry (UTG98). At that time it broke new ground for setting nationally recognised qualifications comprised of Competency Standard Units as they related to work performance. It assisted in benchmarking the design of training and assessment processes and practices.

The Training Package can to be used by all those involved in the delivery and assessment of competencies that cover Gas Distribution; Transmission; Cathodic Protection; Control Centres; LPG — storage, processing and transportation; Meter Reading and Billing and Systems Operations.

Users of this Industry Training Package include:

- large multi-energy utilities companies
- State Training and Recognition Authorities which will use the Training Package as the pre-eminent industry's advice to government; and as a statement of the minimum requirements to be satisfied by Registered Training Organisations in the delivery of services.
- State/Territory Industry Training Bodies/Industry Skills Councils which will use the Training Package to underpin their relationship with, and support for, the State training and recognition authorities quality systems, including providing advice
- Registered Training Organisations which will issue qualifications and or statements of attainment, based on the requirements outlined in the Training Package which contains the vocational standards for industry
- Individual candidates/trainees/learners who will use the provisions of the Training Package to establish their responsibilities and to protect their prerogatives
- Organisations in mapping their human resource processes and arrangements to the National benchmark Competency Standard Units in this Training Package.

AQF Qualifications in the UEG11 Training Package Version 1

Table 2 — Qualifications Mapping of this Training Package UEG11 -Version 1 to the former Training Package UEG06-Version 1.1

AQF Code	Certificate I Qualifications (UEG11)	Certificate I Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEG10106 Certificate I in Utilities	N

AQF Code	Certificate I Qualifications (UEG11)	Certificate I Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
		Industry Operations	

AQF Code	Certificate II Qualifications (UEG11)	Certificate II Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEG20106 Certificate II in Utilities Industry Operations	N
UEG20211	Certificate II in Gas Industry Pipeline Operations	New Qualification	N
UEG20311	Certificate II in Gas Industry Transmission Pipeline Construction	New Qualification	N
UEG20411	Certificate II in Gas Industry Cylinder Operations	New Qualification	N
UEG20511	Certificate II in Gaseous Fuel Delivery Operations	New Qualification	N

AQF Code	Certificate III Qualifications (UEG11)	Certificate III Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEG30110 Certificate III in Gas Industry Operations	N
UEG30211	Certificate III in Gas Supply Industry Operations	New Qualification	N

AQF Code	Certificate IV Qualifications (UEG11)	Certificate IV Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEG40106 Certificate IV in Gas Industry Operations	N

AQF Code	Certificate IV Qualifications (UEG11)	Certificate IV Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEG40206 Certificate IV in Gas Industry Transmission Pipeline	N
UEE40311	Certificate IV in Gas Supply Industry Operations	New Qualification	N

AQF Code	Diploma Qualifications (UEG11)	Diploma Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEG50106 Diploma in Gas Industry Operations	N
UEG50211	Diploma in Gas Supply Industry Operations	New Qualification	N

AQF Code	Advanced Diploma Qualifications (UEG11)	Advanced Diploma Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEG60106 Advanced Diploma in Gas Industry Operations	N

AQF Code	Advanced Diploma Qualifications (UEG11)	Advanced Diploma Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
UEG60211	Advanced Diploma in Gas Supply Industry Operations	New Qualification	N

Table 1 AQF qualifications in this Training Package

AQF	Qualification Code	Qualification Title
2	UEG20211	Certificate II in Gas Industry Pipeline Operations
2	UEG20311	Certificate II in Gas Industry Transmission Pipeline Construction
2	UEG20411	Certificate II in Gas Industry Cylinder Operations
2	UEG20511	Certificate II in Gaseous Fuel Delivery Operations
3	UEG30211	Certificate III in Gas Supply Industry Operations
4	UEG40311	Certificate IV in Gas Supply Industry Operations
5	UEG50211	Diploma of Gas Supply Industry Operations
6	UEG60211	Advanced Diploma of Gas Supply Industry Operations

Table 3 — Qualifications Mapping of UEG06 Version 1.1 to the previous Version UEG06 version 1

Detailed below is a summary qualifications mapping of the former Gas Industry Training Package (UEG06) to the new Gas Industry Training Package. Note only Qualifications which have been revised are included.

AQF Code'	Relates to	Nature of Relationship	Equivalent = E Not Equivalent = N
UEG30110	Certificate III in Gas	Modification of UEG30106 comply with NQC Packaging	E

AQF Code'	Relates to	Nature of Relationship	Equivalent = E Not Equivalent = N
	Industry Operations	Rules.	

Table 4 — Qualifications Mapping of the former Gas Industry Training Package UTG98 and UEG06 -Version 1

Detailed below is a summary qualifications mapping of the former Gas Industry Training Package UTG98 and UEG06 Gas Industry Training Package Version 1.

AQF Code'	Relates to	Nature of Relationship	Equivalent — full, part, or no
UEG10106	Certificate I in Utilities Industry Operations	New Utilities generic qualification developed in this Training Package Review process.	No equivalent
UEG20106	Certificate II in Utilities Industry Operations	Update of previous Certificate II in Gas Industry Operations qualification from UTG98 with an extension in focus to incorporate all of utilities scope.	No equivalent
UEG30106	Certificate III in Gas Industry Operations	Update of the previous Certificate III in Gas Industry Operations, with a new structure and units.	No equivalent
UEG40106	Certificate IV in Gas Industry Operations	Update of the previous Certificate IV in Gas Industry Operations, with a new structure and units.	No equivalent
UEG40206	Certificate IV in Gas Industry Transmission Pipeline	New Gas qualification for Transmission Pipelines developed in this Training Package Review process.	No equivalent
UEG50106	Diploma of Gas	Update of the previous Diploma	No

AQF Code'	Relates to	Nature of Relationship	Equivalent — full, part, or no
	Industry Operations	of Gas Industry Operations, with a new structure and units.	equivalent
UEG60106	Advanced Diploma of Gas Industry Operations	Update of the previous Advanced Diploma of Gas Industry Operations, with a new structure and units.	No equivalent

Summary of Units of Competency in the UEG11 Version 1 Training Package

Full details of the Competency Standards Units in this Training Package including: Unit Code, Title, Weighting Points, AQF Level, Pre-requisites and Qualification Mapping, are contained in the Index of Competency Standard Units, in Volume 1 Part 3 Competency Standards Index of this Training Package.

Table 5 – UEG11 Gas Industry Training Package - Competency Standard Units

A mapping Competency Standard Units including the relationship between units which have been amended, added or deleted from versions of Gas Industry Training Package and equivalences is included in Volume 1 Part 3 Competency Standards Index of this Training Package.

Table 6 - Imported Units of Competency in the UEG11 Gas Industry Training Package Version 1

Training Package	Training Package Title	Version	No. of Units
BSB07	Business Services Training Package	7	27
CPC08	Construction, Plumbing and Services Training Package	8	5
HLT07	Health Training Package	5	3
RII09	Resources and Infrastructure Industry Training Package	3.1	5
TLI10	Transport and Logistics Training Package	2.0	9
UEE11	Electrotechnology Training Package	1.1	9
UEP12	Electricity Supply Industry - Generation Sector Training Package	2	2
UET12	Electricity Supply Industry - Transmission, Distribution and Rail Sector Training Package	2	2
Total Imported CSUs			**62**

Full details of the Imported Units in this Training Package including: Unit Code, Title, Weighting Points, AQF Level, Pre-requisites and Qualification Mapping, are contained in the Index of Competency Standard Units in Volume 1 Part 3 Competency Standards Index of this Training Package.
Please consult the source Training Package for information, including equivalences, in relation to new and updated imported units included in this version of the Gas Industry Training Package.

Language, Literacy, Numeracy

The Competency Standards have been written to reflect the technical and operational needs of industry and include appropriate language and literacy requirements. A new and specific section related to literacy and numeracy skills has been included in the Competency Standard Units for the purposes of providing advice to RTOs on the entry requirements for each unit. It characterises how participants are to be best equipped to achieve the required, writing and numeracy skill levels.
A specific section for Literacy and Numeracy Skills has been included in Volume 2 of this Training Package. In addition, there is an explanation of their relationship to the Performance Criteria and their assessment in accordance with the critical aspects of evidence within each Competency Standard Unit.

Access, Equity and Cultural Diversity

The skills required of employees in the Gas Industry sector of the EnergyUtilities Industry are comprehensive, with many employment opportunities available. The Competency Standards reflect the range of knowledge and skills and there application, required in the Industry. They are written in a non-exclusive manner so as to increase the participation rates of under-represented community groups and to minimise unintentional bias.
As a matter of policy in the Gas Industry and in this Training Package there is no exclusion of any persons from participating in competency development, training and employment. This includes encouraging under-represented groups such as indigenous peoples, people with disabilities, women, and people from rural and remote areas or cultural diversity to join the Industry.

Acknowledgments

The Board of Directors of the ElectroComms and Energy Utilities Industry Skills Council Ltd trading as EE-Oz Training Standards wishes to acknowledge the important developmental roles played by training advisory and delivery organisations, enterprises, employer and employee representatives, industry practitioners, regulatory authorities, individuals and community stakeholders. Without their level of commitment and support this Training Package would not exist in its current form.
The Board acknowledges and thanks the following organisations and individuals:

- Gas Industry Training Package Review National Steering Group
- Gas Industry Training Package Review Technical Reference Group
- the Chairs, Executive Officers, and Members of the EE-Oz Training Standards State and Territory Network (ITABs) and their various sub-committees
- the State and Territory Training Authorities
- the State and Territory Regulatory Authorities
- OHS Skills Development and Practical Guidance Team of the National Occupational Health and Safety Commission
- industry sector RTOs and practitioners for contributing to and being supportive of the project
- industry sector practitioners for contributing to and being supportive of the project.
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Outline of this Training Package

Outline of this Training Package

The endorsed components of the Training Package are contained in two volumes. Volume 1 covers the overall Package framework and completion requirements for qualifications, and Volume 2 the content details for respective parts and sub-sections of Volume 1. Both volumes form an integrated whole and are not to be used independently of each other.

Volume 1: Structure and Overview

Qualification Framework

This section describes how the qualifications, scope/descriptions, composition and content are structured. Completion and issuance requirements are provided as well as advice on flexibility arrangements, with entry and exit pathways and articulation arrangements. Titles and codes of the list of qualifications to be issued are also included.

Competency Standards

This section describes how the competency standards were developed (in broad terms), the industry coverage they apply to, as well as the format and construction of the individual Competency Standard Units. The index of Competency Standard Units and their scope/description is included in this part. Matters related to language, literacy and numeracy, access, equity and cultural diversity and regulatory arrangements, for which the Competency Standard Units may apply, is also included. The Definitions/Glossary and Essential Knowledge and Associated Skills sections of the Training Package link directly to the Competency Standard Units and no Unit is to be used in isolation or exported without these interrelated components.
All the Competency Standard Units in the Gas Industry Training Package are detailed in Volume 2, Part 2, each is listed according to its respective industry discipline area.

Part 3 – Assessment Guidelines

This section outlines how the assessment guidelines inform a Registered Training Organisation (RTO) on the infrastructure requirements they will need to enable them to carry out training delivery assessment activities related to the Training Package. The guidelines include assessment systems, the role of RTOs, assessment pathways, recognition arrangements, assessor qualifications and sources of information.

Volume 2: Competency Standard Units — Content and scope

Volume 2 Part 1 contains a Definitions/Glossary, which provides a description/explanation of certain/assigned words that appear in this document.
Volume 2 Part 2 contains the competency standard units in their respective disciplines, eg Transmission Units, Distribution Units, Operation Units, Cathodic Protection Units.
Volume 2 Part 2 also contains the details of Essential Knowledge and Associated Skills referred to in each Competency Standard Unit.
Volume 2 Part 3 provided information on the application of Language Literacy and Numeracy aspects identified with each Competency Standard Unit.
Note: The two volumes form an integrated whole and must not be used independently of each other.

Gas Industry Training Package Layout

The revised Gas Industry Training Package has been developed, reviewed and validated through extensive industry consultation. It reflects the views of a wide cross-section of the industry and its key stakeholders/practitioners throughout Australia.
The Training Package has been constructed as a two volume set. Volume 1 covers the overall Package framework and completion requirements for qualifications. Volume 2 includes the content details of parts and sub-sections of Volume 1. The two volumes form an integrated whole and are not to be used independently of each other.

Volume 1

Preliminary Information
- The Gas Industry
- Overview of Training Packages
- The Gas Industry Training Package

Part 1 Qualifications Framework
Part 2 Competency Standards Index
Part 3 Assessment Guidelines
- Appendix A — New Apprenticeships
- Appendix B — Sample Assessment Instruments
- Enclosures:
  - Enclosure A: List of Sample Assessment Instruments
  - Enclosure B: Administrative Forms
  - Enclosure C: Glossary of Terms

Volume 2

Preliminary Information
- Part 1 Definitions/Glossary
- Part 2 Competency Standards
  - 2.1 Competency Standard Units
  - 2.1.0 Independent Units
  - 2.1.1 Cross Discipline Common Units
  - 2.1.2 Distribution Discipline
  - 2.1.3 Transmission Discipline
  - 2.1.4 Cathodic Protection Discipline
  - 2.1.5 Control Centre Discipline
  - 2.1.6 Liquefied Petroleum Gas (LPG) Discipline
  - 2.1.7 Support Services Discipline
  - 2.1.8 Pressure Control Discipline
  - 2.1.9 Imported Units
  - 2.2 Essential Knowledge and Associated Skills
- Part 3 Language, Literacy, Numeracy and Employability Skills
  - 3.1 Language, Literacy and Numeracy

Important Note to Users

Training Packages are not static documents. They are amended periodically to reflect the latest industry practices and are version controlled. It is essential that the latest version is always used.

Check the version number before commencing training or assessment

This Training Package is Version 1 – check whether this is the latest version by going to the Training Information Service (www.ntis.gov.au) and locating information about the Training Package. Alternatively, contact the Training Package developer and technical content custodian ElectroComms and EnergyUtilities Industry Skills Council Ltd, trading as EE-Oz Training Standards http://www.eeoz.com.au/ to obtain relevant content advice and confirm the latest version number.

Explanation of version number conventions

The primary release Training Package is Version 1. When changes are made to a Training Package, sometimes the version number is changed and sometimes it is not, depending on the extent of the change. When a Training Package is reviewed, it is considered to be a new Training Package for the purposes of version control and is Version 1. Do not confuse the version number with the Training Package's national code (which remains the same during its period of endorsement).

Explanation of the review date

The review date (shown on the title page and in the footer of each page) indicates when the Training Package is expected to be reviewed to meet changes in technology and other circumstances. The review date is not an expiry date. Endorsed Training Packages and their components remain current until they are reviewed or replaced.

1.0.00 Qualification Framework

Volume 1 Part 1 Qualification Framework

1.1.00 The Australian Qualifications Framework

1.0 The Australian Qualification Framework

What is the Australian Qualifications Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF, see the AQF Implementation Handbook.
http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf
The AQF provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.
Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.

Qualifications

Training Packages can incorporate the following eight AQF qualifications:

- Certificate I in ...
- Certificate II in ...
- Certificate III in ...
- Certificate IV in ...
- Diploma of ...
- Advanced Diploma of ...
- Vocational Graduate Certificate of ...
- Vocational Graduate Diploma of ...

On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the AQF Implementation Handbook and the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Statement of Attainment

A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). Issuance of Statements of Attainment must comply with the advice provided in the current AQF Implementation Handbook and the AQTF 2010 Essential Standards for Initial and Continuing Registration.
Under the AQTF 2010, RTOs must recognise the achievement of competencies as recorded on a qualification or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

AQF Guidelines and Learning Outcomes

The AQF Implementation Handbook provides a comprehensive guideline for each AQF qualification. A summary of the learning outcome characteristics and their distinguishing features for each VET related AQF qualification is provided below.

Certificate II

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of operations to be applied.
Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes.
Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate basic operational knowledge in a moderate range of areas;
- apply a defined range of skills;
- apply known solutions to a limited range of predictable problems;
- perform a range of tasks where choice between a limited range of options is required;
- assess and record information from varied sources;
- take limited responsibility for own outputs in work and learning

Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to

Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the section of equipment, services or contingency measures and within known time constraints.
Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others

Certificate IV

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine.
Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
Applications involve responsibility for, and limited organisation of, others.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas

- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others

Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination.
The self directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.
Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may be involved.
The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes

Advanced Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of Australian criteria or applications or knowledge or procedures.
The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for

self and others in achieving the outcomes is involved.
Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.
The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute judgements across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters
- demonstrate accountability for personal and group outcomes within broad parameters

Regulatory Arrangements

Competency Standard Units, Skill Sets and Qualifications in this Training Package have been developed in consultation with the relevant industry technical and business Regulators so that, where appropriate, these align to the requirements of legislation, regulations and mandated codes of practice.
Licensing and regulatory authorities will recognise a range of Qualifications, Units or Skill Sets contained within this Training Package for respective licensing, registration or accreditation purposes. In constructing these qualifications, EE-Oz Training Standards and respective Regulators have given consideration to the link between the issuance of the qualification and the respective regulatory requirements. It is expected that the assessment and preferred training regime which meets the competency outcomes of the qualification and assessment, will therefore meet the regulatory requirements.
In recognising this interrelationship, every effort has been made to ensure currency in regulatory requirements, thus RTOs must ensure they are observed. This includes utilising any recommended industry training program designed to meet the Competency Standard Units and/or Qualification outcomes related to licensing/registration applications.
As RTO's registered under the Australian Quality Training Framework (AQTF) requirements are given full responsibility for deeming a learner/apprentice competent for the respective Competency Standard Units making up a Training Package Qualification or Skill Set, the RTO shall also provide all the necessary documentation (including results preferably percentile based) as required by the regulatory authority to support an application of eligibility for a relevant license, registration or accreditation.

It should be noted that regulatory authorities have advised that the quality of Registered Training Organisations issuing a qualification for regulatory purposes will be monitored. Where deficiencies are identified, regulators may deem it necessary to introduce appropriate actions, including an additional 'external' assessment following the issuing of the qualification to satisfy eligibility requirements for issuing the licence.

Exporting Gas Industry CSUs from this Training Package

Competency Standard Units in this Training Package are interrelated and linked with the Definitions/Glossary and Essential Knowledge and Associated Skills sections of the Training Package This also includes information related to language, literacy and numeracy; access, equity, cultural diversity and regulatory arrangements which apply to respective Competency Standard Units. No Qualification or Competency Standard Unit can be used in isolation or imported into another Training Package, Qualification, Skill Set or Accredited Course without these interrelated components.

1.1.01 Gas Industry Qualification Framework

1.1 Gas Industry Qualification Framework

The qualifications listed in this Training Package adhere to the advice provided in the current version of AQF Implementation Handbook. See www.aqf.edu.au.
The qualifications have been designed to comply with the provisions of and comply with the National Quality Council's (NQC) requirements for Flexibility of Training Package Qualifications to include:

- One Third or more of total units required to gain a VET qualification will be electives.
- The choice of Elective units can be broadened, to allow one sixth of total units to be included from other qualifications in a Training Package, other Training Packages and accredited courses.
- All units as either core or electives.

See:http://www.nqc.tvetaustralia.com.au/__data/assets/pdf_file/0006/52269/National_Quality_Council_communique.pdf
It should be noted that under these provisions Licensed and trade occupations are exempt from these measures.

Application of the NQC Flexibility Formula

Industry has obtained formal agreement to the continued use of its unit weighting system for valuing individual competency standards and the effort required to achieve a qualification under these provisions.
Thus, for the qualifications in this Training Package, the terms "total units" and "total units required to gain a qualification" and the fractions thereof referred to above are calculated using the weighting points assigned to respective Competency Standard Units (CSU) rather than by a count of individual units. The Qualification Completion Requirements table below summarises the relevant weighting points values to satisfy the packaging rules of each qualification in accordance with the NQC Policy.
To allow for the inclusion of units imported from other qualifications and other Training Packages and accredited courses under this weighting points system, industry also gained agreement to the following process for importing and valuing such imported units, as follows:

- Customisation of these qualifications is permitted in order to meet learner's individual needs, their current, intended or future work context, and a variety of possible industry environments.
- For this purpose the importation of units up to one sixth of the total points value required for completion of a qualification is permitted from either one or a combination of the following three sources:

- Elsewhere in this Training Package
- Other Training Packages
- Accredited Courses
    - Units selected for importation under these provisions shall be first packaged in the source Training Package or Accredited Course at the AQF level of the target qualification.

- The importation of units from these sources shall be within the boundaries of the integrity of the intended qualification outcomes, the requirements of the Australian Qualifications Framework, the Australian Quality Training Framework and all regulatory requirements applicable to the imported unit and/or the target qualification.
- Minimum points (10) will be allocated to units imported from sources other than those managed by EE-Oz Training Standards. Advice on the valuation of units selected for importation from sources other than EE-Oz Training Packages shall be sought from the relevant EE-Oz Technical Advisory Committee.

Advice shall be sought from the relevant state/territory registration and accreditation body to determine if there is a requirement for an extension to a Registered Training Organisation's scope of registration in relation to the inclusion of such imported unit/s into a qualification.
Advice shall be sought from the relevant registration and accreditation body regarding the requirement to record and report the inclusion of units imported under these provisions for the purposes of awarding a qualification.
Where units have been imported under these provisions, this shall be reported to EE-Oz Training Standards so that industry is aware of such units and can consider the endorsement of these into the relevant qualification(s).

Qualification Mapping

Please refer to Volume 1 Preliminary Information for:

- Modifications History of Qualifications in this Training Package
- Mapping of the qualifications in this version of the Gas Industry Training Package to previous versions, including equivalences.

1.1.02 Qualification Pathways

1.2 Qualification Pathways

This Training Package provides open entry at each of the AQF levels. Arrows indicate the pathways that can be followed no matter at which qualification level you enter.

Entry and Exit Points for Gas Industry Qualification

For more information on the latest Training Package vocational standards qualifications and qualification pathways visit ElectroComms and EnergyUtilities Industry Skills Council Ltd trading as EE-Oz Training Standards at www.ee-oz.com.au .

Articulation pathways

Qualification articulation and entry and exit arrangements are based on the specific training and education requirements endorsed by the industry. The construction of the Competency standard units and the group of units that make up an individual qualification are of particular significance to the operational, regulatory and safety arrangements of the industry. Each qualification provides a unique vocational outcome that can be used for Australian apprentices as entry-level contracted employees.
All qualifications are open entry and open exit and are available for use as Australian Apprenticeship entry-level contracted employment. Australian apprenticeship arrangements are subject to State/Territory statutory requirements, prescriptions within industrial instruments and policies of State/Territory training authorities and RTOs. Reference to what applies should therefore be made from respective statutory bodies in the first instance. Australian Apprenticeship arrangements therefore apply to all qualifications; however, they are subject to State/Territory statutory requirements, prescriptions within industrial instruments and policies of State/Territory training authorities.
Open entry is provided into all qualifications, Open entry is available at all levels provided the prospective learner's general education and competency level is equivalent to the outcome of four to five years of secondary school. Additionally, entry levels provide an option for potential learners to choose a qualification suited to their needs while providing flexibility for recruitment action by employers. Entry into all qualifications is also available through Recognised Prior Learning (RPL) arrangements.

School Based Australian Apprenticeships

Australian Apprenticeships are declared in each State or Territory according to the particular processes of the jurisdiction and requirements identified by industry in the State or Territory. Declarations for particular qualifications as either Traineeships or Apprenticeships are made accordingly and therefore the same qualification may be classified differently between jurisdictions. Whilst EE-Oz has no control over these processes and declarations, it would recommend that the following qualifications be considered when addressing School based Australian Apprenticeships:

Qualification Code	Qualification Title
Nil	Nil

Access, Equity and Cultural Diversity

The skills required of employees in the Gas Industry are comprehensive. The qualifications in this Training Package reflect the range of competencies required and are written in a non-exclusive manner so as to increase the participation rates of all equity and disadvantaged groups and to minimise unintentional bias.

Language, Literacy and Numeracy

A specific section related to language, literacy and numeracy skills has been included in each Competency standard unit to provide advice on the entry requirements for each unit. It provides Registered Training Organisations (RTOs), industry and career aspirants with relevant language, literacy and numeracy entry-level advice for each Competency standard unit that would maximise an individual's prospects for successful completion of the unit and, where appropriate, the qualification.
The language, literacy and numeracy definitions and requirements are described in more detail in Volume 2, Part 3 — Language, Literacy and Numeracy Skills. Each Competency standard unit in Volume Part 2 references the respective language, literacy and numeracy skills that apply.

Australian Apprenticeship – Application

Australian Apprenticeships are work related competency programs designed for entry-level contracted employment for new entrants to the industry. For further information regarding Australian Apprenticeships and their application in relation to this Training Package refer to Appendix A - Australian Apprenticeship – application. Appendix A is located at the end of Volume 1 Part 3 – Assessment Guidelines.

1.1.03 Qualification Employability Skills Statements

1.3 Qualification Employability Skills Statements

The Employability Skills facets for each AQF level are described below. Thesee are broad industry requirements that may vary depending on qualification packaging rules and electives selected.

Employability Skills Summary for all Qualifications at AQF Level 2

The following table contains a summary of the Employability Skills as identified by the Gas Industry for all UEG11 Gas Training Package qualifications at AQF level 2. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Co-operate with other workers/customers and report outcomes and/or any problems
Access, read and comprehend safety instructions and procedures
Share information via speech and in writing
Prepare time sheets
Teamwork
Work with others to generate and review ideas
Work effectively as an individual and as a member of a team
Work with others and in a team to identify work needs and review ideas against those needs
Relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Contribute to a positive culture of compliance within an organisation
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Provide feedback

Problem Solving
Apply lateral thinking ideas to generate solutions in response to work problems
Anticipate or clarify problems to avoid interruptions to work flows and processes
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Identify and comply with all requirements and standards for work in the Gas industry
Apply enterprise best practice and quality systems
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of industry standards in the workplace
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Identify related industry compliance requirements
Maintain relevant industry and work records
Establish clear implementation goals and deliverables
Collect, analyse and organise work task information
Apply time management prioritising techniques
Self Management
Plan own work within given task parameters
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices

and systems
Seek learning opportunities
Take control and manage own learning
Adopt a open approach to Australian ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology related to the particular work tasks including tools, devices, instruments and materials
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the Gas industry
Be willing to gain knowledge and skills relevant to Australian and emerging technologies

Employability Skills Summary for all Qualifications at AQF Level 3

The following table contains a summary of the Employability Skills as identified by the Gas Industry for all UEG11 Gas Training Package qualifications at AQF level 3. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Communicate information using drawing, diagrams, schedules and manuals
Communicate and/or report work outcomes and/or any problems
Communicate ideas, information and advice to co-workers/clients to enable confirmation of product/work requirements and specifications

Communicate effectively in oral and written form
Access, read and comprehend safety instructions and procedures
Collect, organise and understand information related to a work task and its relevant safety procedures
Undertake negotiations if there are conflicts in work requirements and/or priorities
Share industry information
Document work quotations and tender support schedules
Prepare time sheets
Prepare documentation on particular work tasks including evaluations, reports, timesheets and costings
Prepare and present formal reports to clients and/or co-workers
Teamwork
Work with others to generate ideas and review
Work effectively as an individual and as a member of a team
Work with others and in a team to identify work needs and review ideas against those needs
Work with other and in a team to evaluate and report on work tasks and outcomes
Work with others and in a team to present information to a client and/or co-worker
Relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Influence individuals and teams
Develop and maintain networks for implementation and maintenance of industry standards in relation to workplace computer systems
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Coach/mentor others and provide feedback
Problem Solving
Apply lateral thinking ideas to generate solutions in response to work problems

Apply operational research and research management skills
Clarify and identify work issues and apply processes to avoid interruptions to work flow/processes
Clarify problems and enterprise ideas to avoid interruptions to work flow/processes
Use testing techniques to anticipate or clarify problems to avoid interruptions to work flows and process
Generate ideas and alternatives
Analyse information to identify opportunities to develop solutions
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Recognise and respond to circumstances outside instructions or personal competence
Be proactive and apply strategies to overcome work blockages
Adopt proactive relationships with clients and co-workers
Identify and comply with all requirements and standards for work in the Gas industry
Apply enterprise best practice and quality systems
Generate ideas and translate into workplace actions and outcomes
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of the industry standards in the workplace
Translate ideas into action
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Plan and organise activities to enable choices of maintenance methods of equipment, tools and related work documentation
Plan activities to enable choice of analysis/testing techniques of work outcomes and systems

Develop industry work plans including key performance indicators
Use mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Use computing capabilities that enable the use of mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Identify related industry compliance requirements
Identify, access and allocate required implementation resources
Maintain relevant industry and work records
Maintain relevant industry/work record systems
Maintain industry related records
Understand computer systems, their relationships and applications in the workplace
Establish clear implementation goals and deliverables
Monitor and optimise resource utilisation
Self Management
Plan own work within given task parameters
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Clarify and confirm work instructions
Clarify own roles, goals, prerogatives and limitations in relation to the industry
Take responsibility for industry obligations
Evaluate and monitor own performance
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices

and systems
Seek learning opportunities
Provide technical instruction and learning assistance to assigned apprentices, trainees or other less experienced workers
Take control and manage own learning
Adopt a open approach to Australian ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology to communicate with the client, document and present information
Use electronic information systems to communicate with co-workers and/or other related personnel
Use workplace technology related to the particular work tasks including tools, devices, instruments and materials
Use work place technology to collate, organise and maintain work documentation and information
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the Gas industry
Be willing to learn Australian IT skills
Be willing gain knowledge and skills relevant to Australian and emerging technologies

Employability Skills Summary for all Qualifications at AQF Level 4

The following table contains a summary of the Employability Skills identified by the Gas Industry for all UEG11 Gas Training Package qualifications at AQF level 4. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Communicate information using drawing, diagrams, schedules and manuals
Communicate and/or report work outcomes and/or any problems
Communicate effectively in oral and written form
Access, read and comprehend safety instructions and procedures
Undertake negotiations if there are conflicts in work requirements and/or priorities
Share industry information
Share essential business information
Document work quotations and tender support schedules
Process approvals/authorities for industry activities
Prepare time sheets
Prepare documentation on particular work tasks including evaluations, reports, timesheets and costings
Prepare and present formal reports to clients and/or co-workers or other related personnel
Teamwork
Work with others by recognising dependencies and using co-operative approaches to optimise work flow and productivity
Work with others to generate ideas and review
Work effectively as an individual and as a member of a team
Work with others to identify work needs and review ideas against those needs
Work with others to evaluate and report on work tasks and outcomes
Work with others to present information to a client and/or co-worker(s)
Relate to people from a range of social, cultural and ethnic backgrounds and physical

and mental abilities
Influence individuals and teams
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Coach/mentor others and provide feedback
Problem Solving
Use testing and analysis techniques to anticipate and/or clarify problems and plan around them to avoid interruptions to work flows/processes
Apply lateral thinking to generate solutions in response to work problems
Apply analytical techniques to anticipate design issues and product needs
Apply operational research and research management skills
Clarify and identify work issues and apply processes to avoid interruptions to work flow/processes
Analyse information to identify opportunities to develop solutions
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Recognise and respond to circumstances outside instructions or personal competence
Create Australian opportunities for the enterprise
Be proactive and apply strategies to overcome work blockages
Adopt a proactive relationship with clients/co-workers
Identify work needs by applying research techniques
Identify and comply with all requirements and standards for work in the Gas industry
Apply best practice and quality systems
Apply computer systems and applications to ensure quality and efficiency of work tasks and documentation
Generate ideas and translate into workplace actions and outcomes
Interact effectively with both internal and external industry stakeholders

Initiate and follow through on the implementation of industry standards in the workplace
Translate ideas into action
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Plan and organise activities to enable choices of maintenance methods of equipment, tools and related work documentation
Plan activities to enable choice of analysis/testing techniques of work outcomes and systems
Plan and organise activities to enable the most appropriate testing/analysis procedures to be implemented
Plan activities to enable choice of the best computer systems/programs for application on a particular work task
Develop industry work plans including key performance indicators
Use mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Use computing capabilities that enable the use of mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Identify related industry compliance requirements
Identify, access and allocate required implementation resources
Maintain relevant industry and work records
Maintain relevant industry/work record systems
Maintain industry related records
Understand computer systems, their relationships and applications in the workplace
Establish clear implementation goals and deliverables
Monitor and optimise resource utilisation
Self Management

Plan own work within given task parameters
Maintain current knowledge of computer systems and capabilities
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Clarify and confirm work instructions
Clarify own roles, goals, prerogatives and limitations in relation to the industry
Take responsibility for industry obligations
Evaluate and monitor own performance
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices and systems
Maintain current knowledge of computer systems programs and there relevant applications
Seek learning opportunities
Provide technical instruction and learning assistance to assigned apprentices, trainees or other less experienced workers
Take control and manage own learning
Adopt a open approach to Australian ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology to document and present information
Use workplace technology to communicate with clients, co-workers and/or other related personnel

Use workplace technology related to particular work tasks including tools, equipment, devices, instruments and materials
Use workplace technology for data analysis/investigation
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the Gas industry
Be willing to learn Australian IT skills
Use workplace technology to collate, organise and maintain work documentation and information
Use computer applications as a management tool

Employability Skills Summary for all Qualifications at AQF Level 5

The following table contains a summary of the Employability Skills identified by the Gas Industry for all UEG11 Gas Training Package qualifications at AQF level 5. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Communicate information using drawing, diagrams, schedules and manuals
Communicate and/or report work outcomes and/or any problems
Communicate effectively in oral and written form
Access, read and comprehend safety instructions and procedures
Undertake negotiations if there are conflicts in work requirements and/or priorities
Share industry information
Share essential business information
Document work quotations and tender support schedules

Process approvals/authorities for industry activities
Prepare time sheets
Prepare documentation on particular work tasks including evaluations, reports, timesheets and costings
Prepare and present formal reports to clients and/or co-workers or other related personnel
Use aesthetic ideas to plan visual presentation material
Teamwork
Work with others by recognising dependencies and using co-operative approaches to optimise work flow and productivity
Work with others to generate ideas and review
Work effectively as an individual and as a member of a team
Work with others to identify work needs and review ideas against those needs
Work with others to evaluate and report on work tasks and outcomes
Work with others to present information to a client and/or co-worker(s)
Relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Influence individuals and teams
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Coach/mentor others and provide feedback
Problem Solving
Use testing and analysis techniques to anticipate and/or clarify problems and plan around them to avoid interruptions to work flows/processes
Apply lateral thinking to generate solutions in response to work problems
Apply analytical techniques to anticipate design issues and product needs
Apply operational research and research management skills
Apply contingency management techniques to variable circumstances

Clarify and identify work issues and apply processes to avoid interruptions to work flow/processes
Analyse information to identify opportunities to develop solutions
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Recognise and respond to circumstances outside instructions or personal competence
Create Australian opportunities for the enterprise
Be proactive and apply strategies to overcome work blockages
Adopt a proactive relationship with clients/co-workers
Identify work needs by applying research techniques
Identify and comply with all requirements and standards for work in the Gas industry
Apply best practice and quality systems
Apply computer systems and applications to ensure quality and efficiency of work tasks and documentation
Generate ideas and translate into workplace actions and outcomes
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of industry standards in the workplace
Translate ideas into action
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Plan and organise activities to enable choices of maintenance methods of equipment, tools and related work documentation
Plan activities to enable choice of analysis/testing techniques of work outcomes and systems
Plan and organise activities to enable the most appropriate testing/analysis procedures to be implemented

Plan activities to enable choice of the best computer systems/programs for application on a particular work task
Develop industry work plans including key performance indicators
Use mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Use computing capabilities that enable the use of mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Identify related industry compliance requirements
Identify, access and allocate required implementation resources
Maintain relevant industry and work records
Maintain relevant industry/work record systems
Maintain industry related records
Understand computer systems, their relationships and applications in the workplace
Establish clear implementation goals and deliverables
Monitor and optimise resource utilisation
Self Management
Plan own work within given task parameters
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Clarify and confirm work instructions
Clarify own roles, goals, prerogatives and limitations in relation to the industry
Take responsibility for industry obligations
Evaluate and monitor own performance
Apply systematic and effective time management
Learning

Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices and systems
Maintain current knowledge of computer systems programs and there relevant applications
Seek learning opportunities
Provide technical instruction and learning assistance to assigned apprentices, trainees or other less experienced workers
Take control and manage own learning
Adopt a open approach to Australian ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology to document and present information
Use workplace technology to communicate with clients, co-workers and/or other related personnel
Use workplace technology related to particular work tasks including tools, equipment, devices, instruments and materials
Use workplace technology for data analysis/investigation
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the Gas industry
Be willing to learn Australian IT skills
Use workplace technology to collate, organise and maintain work documentation and information
Use computer applications as a management tool

Employability Skills Summary for all Qualifications at AQF Level 6

The following table contains a summary of the Employability Skills identified by the Gas Industry for all UEG11 Gas Training Package qualifications at AQF level 6. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Communicate information using drawing, diagrams, schedules and manuals
Communicate and/or report work outcomes and/or any problems
Communicate effectively in oral and written form
Access, read and comprehend safety instructions and procedures
Undertake negotiations if there are conflicts in work requirements and/or priorities
Share industry information
Share essential business information
Share essential IT/Computing information
Document work quotations and tender support schedules
Process approvals/authorities for industry activities
Prepare documentation on particular work tasks including evaluations, reports, timesheets and costings
Prepare and present formal reports to clients and/or co-workers or other related personnel
Use aesthetic ideas to plan visual presentation material
Teamwork
Work with others by recognising dependencies and using co-operative approaches to optimise work flow and productivity
Work with others to generate ideas and review
Work effectively as an individual and as a member of a team

Work with others to identify work needs and review ideas against those needs
Work with others to evaluate and report on work tasks and outcomes
Work with others to present information to a client and/or co-worker(s)
Relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Influence individuals and teams
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Coach/mentor others and provide feedback
Problem Solving
Use testing and analysis techniques to anticipate and/or clarify problems and plan around them to avoid interruptions to work flows/processes
Apply lateral thinking to generate solutions in response to work problems
Apply analytical techniques to anticipate design issues and product needs
Apply operational research and research management skills
Apply contingency management techniques to variable circumstances
Clarify and identify work issues and apply processes to avoid interruptions to work flow/processes
Analyse information to identify opportunities to develop solutions
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Recognise and respond to circumstances outside instructions or personal competence
Create Australian opportunities for the enterprise
Be proactive and apply strategies to overcome work blockages
Adopt a proactive relationship with clients/co-workers
Identify work needs by applying research techniques

Identify and comply with all requirements and standards for work in the Gas industry
Apply best practice and quality systems
Apply computer systems and applications to ensure quality and efficiency of work tasks and documentation
Generate ideas and translate into workplace actions and outcomes
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of industry standards in the workplace
Translate ideas into action
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Plan and organise activities to enable choices of maintenance methods of equipment, tools and related work documentation
Plan activities to enable choice of analysis/testing techniques of work outcomes and systems
Plan and organise activities to enable the most appropriate testing/analysis procedures to be implemented
Plan activities to enable choice of the best computer systems/programs for application on a particular work task
Develop industry work plans including key performance indicators
Use mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Use computing capabilities that enable the use of mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Identify related industry compliance requirements
Identify, access and allocate required implementation resources
Maintain relevant industry and work records

Maintain relevant industry/work record systems
Maintain industry related records
Understand computer systems, their relationships and applications in the workplace
Understand business systems and their relationships
Establish clear implementation goals and deliverables
Monitor and optimise resource utilisation
Self Management
Plan own work within given task parameters
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Clarify and confirm work instructions
Clarify own roles, goals, prerogatives and limitations in relation to the industry
Take responsibility for industry obligations
Evaluate and monitor own performance
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices and systems
Maintain current knowledge of computer systems programs and there relevant applications
Seek learning opportunities
Provide technical instruction and learning assistance to assigned apprentices, trainees or other less experienced workers
Take control and manage own learning
Adopt a open approach to Australian ideas and techniques

Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology to document and present information
Use workplace technology to communicate with clients, co-workers and/or other related personnel
Use workplace technology related to particular work tasks including tools, equipment, devices, instruments and materials
Use workplace technology for data analysis/investigation
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the Gas industry
Be willing to learn Australian IT skills
Use workplace technology to collate, organise and maintain work documentation and information
Use computer applications as a management tool

The Employability Skills described above are representative of the Gas Industry in general and may not reflect enterprise specific requirements or job roles. Learning and assessment strategies for each qualification should be based on the requirements of the units of competency comprising the qualification and the Assessment Guidelines, Volume 1, Part 3.

1.1.04 Qualification Scope, Work Function and Environment

1.4 Qualification Scope, Work Function and Environment

The qualifications described in this section of the Training Package have been designed and structured by industry in consultation with a range of stakeholders including regulators, RTOs and the community. They address identified work functions and work environments and facilitate worthwhile career pathways within the industry.
The qualification structures that follow must be read in conjunction with Volume 1 Part 2 — Competency Standards, Unit Construction.

UEG20211 Certificate II in Gas Industry Pipeline Operation

Description and scope of the qualification

This qualification provides competencies for entry level gas industry transmission, distribution and pipeline operations functions including; laying utilities distribution infrastructure (including pipes), developing gas pipeline infrastructure and reading gas meters in industrial, commercial and rural environments, on pipelines, associated facilities and equipment; and in control centres.

Typical work function	Typical work environment
Laying utilities distribution infrastructure including pipes, developing gas pipeline infrastructure; reading utilities meters.	Includes working and carrying out activities in industrial, commercial and rural environments on pipelines, control centres and associated facilities and equipment.

UEG20311 Certificate II in Gas Industry Transmission Pipeline Construction

Description and scope of the qualification

This qualification provides competencies for entry level gas transmission pipeline construction activities including right of way preparation, rigging operations, hydrotesting, operating transmission pipeline construction plant and equipment and conducting minor mechanical maintenance.

Typical work function	Typical work environment
Undertaking transmission pipeline construction activities including right of way preparation, rigging operations, hydrotesting, operating transmission pipeline construction plant and equipment and conducting minor mechanical maintenance.	Includes working and carrying out activities in the construction of gas industry transmission pipelines.

UEG20411 Certificate II in Gas Industry Cylinder Operations

Description and scope of the qualification

This qualification provides competencies for entry level gas industry cylinder operations for domestic and industrial supply of gaseous fuels. It encompasses checking, testing, maintaining and filling of gaseous fuel cylinders and the storage, handling, loading, transportation and distribution of cylinders in accordance with the relevant Australian Standards and regulatory requirements.

Typical work function	Typical work environment
Undertaking checking, testing and filling of gas cylinders for distributing and transporting LPG cylinders.	Includes working and carrying out activities in the operation and maintenance of LPG Cylinders.

UEG20511 Certificate II in Gaseous Fuel Delivery Operations

Description and scope of the qualification

This qualification provides competencies in base level gaseous fuel vessels transport and delivery operations, including safe handling procedures, OHS and environmental compliance, and conducting operational checks

Typical work function	Typical work environment
Undertaking gaseous fuel vessels transport and delivery.	Includes working and carrying out activities in the transport and delivery of gaseous fuel vessels.

UEG30211 Certificate III in Gas Supply Industry Operations

Description and scope of the qualification

This qualification provides competencies to conduct Gas Supply Industry activities such as installation, maintenance, fault find and repair, operations of distribution and transmission gas pipelines and associated equipment.

Typical work function	Typical work environment
Undertaking and supervising work on a Gas Industry distribution and transmission pipelines; billing processes; cathodic protection processes and system operations processes.	Includes working and carrying out activities in industrial, commercial and rural environments on pipelines, control centres and associated facilities and equipment.

UEG40311 Certificate IV in Gas Supply Industry Operations

Description and scope of the qualification

This qualification provides competencies to supervise and monitor Gas Supply Industry activities including supervision of installation, diagnostics and maintenance of distribution and transmission gas pipelines and associated equipment.

Typical work function	Typical work environment
Management of processes for the transmission and distribution of natural gas and the storage and processing of LPG. This includes gas distribution control centre operations and transmission pipeline operations.	Includes working and carrying out activities in industrial, commercial and rural environments on pipelines, control centres and associated facilities and equipment.

UEG50211 Diploma of Gas Supply Industry Operations

Description and scope of the qualification

This qualification provides competencies to manage Gas Supply Industry activities including management of projects covering the installation, diagnostics and maintenance of distribution and transmission gas pipelines and associated equipment.

Typical work function	Typical work environment
Performing management functions such as promotion of continuous improvement, managing gas system projects, managing physical resources and OHS systems.	Includes managing activities in industrial, commercial and rural environments on gas pipelines, control centres and associated facilities and equipment.

UEG60211 Advanced Diploma of Gas Supply Industry Operations

Description and scope of the qualification

This qualification provides competencies to design and manage Gas Supply Industry activities and projects.

Typical work function	Typical work environment
Performing management functions such as managing gas system environmental compliance, managing financial and physical resources, planning and implementing systems, managing customer services.	Includes managing activities in industrial, commercial and rural environments on gas pipelines, control centres and associated facilities and equipment.

1.1.05 Qualifications and Packaging Rules

1.5 Qualifications and Packaging Rules

The following table details the full range of qualifications in this version of the Gas Industry Training Package, the completion requirements for each qualification and their respective structure and composition. These qualifications have been designed to comply with the National Quality Council's Packing Rules for Flexibility initiative.

Each qualification is described by the number of core and elective weighted points required for completion and issue of the qualification under the AQF.

Respective qualifications have at least two Elective Groups from which elective competencies may be drawn. Where a range of weighting points is set for a group e.g. 60-120, the lower number indicates both the minimum weighting points required from that particular elective group for completion and the larger number is the maximum required weighting points which may be selected from that group for a valid qualification completion.

Where the lower number for a group is 0 no competencies are required to be selected from that group, however, sufficient weighted points must be selected from other groups to meet the required total elective weighted points for completion.

Note: Individuals may select elective units to a weighting point total greater than the maximum specified for completion from a particular group. Where this is done weighted points in excess of the specified maximum cannot be counted for completion of the qualification.

Where a Competency Standard Unit has pre-requisite Competency Standards Unit requirements, such pre-requisite units shall be completed and their weighted points counted toward qualification completion.

Full details of each qualification follow Table 1 -Qualification Completion Values, below.

Table 1 – Qualification Completion Values

Qualification Code	Qualification Title	Total Core	Total Elective	Elective Units Groups				
				Group A	Group B	Group C	Group D	Group E

UEG20211	Certificate II in Gas Industry Pipeline Operations	240	120	0-70	50-120			
UEG20311	Certificate II in Gas Industry Transmission Pipeline Construction	240	120	0-70	50-120			
UEG20411	Certificate II in Gas Industry Cylinder Operations	240	120	0-60	60-120			
UEG20511	Certificate II in Gaseous Fuel Delivery Operations	230	130	0-60	70-130			
UEG30211	Certificate III in Gas Supply Industry Operations	160	800	0-160	640-800			
UEG40311	Certificate IV in Gas Supply Industry Operations	260	1020	0-220	0-640	260-1020		
UEG50211	Diploma of Gas Supply Industry Operations	340	1260	0-260	0-640	260-340	180-340	
UEG60211	Advanced Diploma of Gas Supply Industry Operations	460	1700	0-360	0-640	260-340	180-340	440-540

1.1.06 Skill Sets

1.6 Skill Sets

Definition

Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.
Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.
Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording 'these competencies meet [insert skill set title or identified industry area] need' on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package. See the 2010 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment. See:
http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf

Identified Skill Sets

There are no identified skill sets in this Training Package.

1.2 Competency Standards

Volume 1 Part 2

Competency Standards

1.2.00 Introduction

Volume 1 Part 2 Competency Standards

2.0 Introduction

This section outlines how the competency standards were developed in broad terms. The industry coverage they can apply to, as well as the format and construction of the individual Competency Standard Units is provided. Matters related to language, literacy and numeracy, access and equity and the regulatory environment in which the units may apply is also covered, as is the interrelated Essential Knowledge and Associated Skills. Competency Standard Units in this Training Package are interrelated and linked with the Definitions/Glossary and Essential Knowledge and Associated Skills sections. No Competency Standard Unit can be used in isolation or exported without these interrelated components.

A definitions/glossary to complement the Competency Standard Units is included in Volume 2 Part 1. It provides a description of the words used in the Competency Standard Units to define terms in more detail. It also forms an integral part of each unit. An Essential Knowledge and Associated Skills section follows the Competency Standard Units and also forms an integrated part of each unit.

Included in this section is:

- an index of the Competency Standard Units with their weighting points
- an index of imported Competency Standard Units and their weighting points
- A mapping of Competency Standard Units in this version of the Training Package and previous versions

1.2.01 Development of Competency Standards for the Gas Industry

2.1 Development of Competency Standards for the Gas Industry

The inaugural National Steering Committee Workshop held in March 1996 developed a framework for the Australian Gas Industry by analysis of existing information and the application of the workshop participants' industry knowledge. The National Steering Group Committee took a broad view of the Gas Industry in order to develop a comprehensive framework that covered all industry and industry-related activities at the conceptual level. Functional workshops were conducted during July and August of 1996. The information obtained from these workshops formed the basis for the development of a comprehensive listing of competency standards for functions performed in the Gas Industry.
The draft standards were verified through invited comment from various Industry representatives and additional workshops held in Sydney and Perth in late 1996 and January 1997.
The first release of the Gas Industry Training Package (UTG98) was October 1998, with a subsequent update made to the Training Package in October 2001.

1.2.02 Industry Coverage

2.2 Industry Coverage

The Australian Gas Industry is described by ANZIC as the class that consists of units mainly engaged in the manufacture of town gas from coal and/or petroleum or in the distribution of manufactured town gas, natural gas or liquefied petroleum gas through a system of mains, including pipelines operated "on own account". This Training Package delivers competencies and qualifications.
In terms of the regulatory environment, The Australian Competition and Consumer Commission regulates most gas transmission pipelines in Australia, with the exception of Western Australia, which have a State-based regulator. Regulators based in each State jurisdiction, except the Northern Territory, regulate gas distribution networks.
Since implementation of the 1997 Natural Gas Pipelines Access Agreement, most Australian gas distribution networks and pipelines have been regulated in accordance with the National Third Party Access Code for Natural Gas Pipeline Systems (the National Gas Code).
The Australian Gas Associations describe the National Gas Code and its ramifications to industry as follows (AGA website, March 2003):
The National Gas Code is a significant part of national competition policy reforms, and aims to promote free and fair trade in gas. The code sets out principles for access to Australian Natural Gas transmission and distribution pipeline services. It allows third parties to obtain access to pipelines within an independent regulatory framework, with arbitration available to resolve disputes.

Under the code, regulated gas distribution network and pipeline operators must submit an access arrangement to an independent regulator for approval. An access arrangement must set out the terms and conditions of access, including reference tariffs for reference services. The regulator undertakes a consultation process in deciding whether to approve a proposed access arrangement, and may require amendments. These access arrangements are subject to periodic review.

The National Gas Code and its application are core issues of concern for Australian Gas Association members.

The Gas Industry Training Package describes the skills and knowledge which pertain to vocations within the field of gas transmission, distribution and the storage and transportation of LPG. It offers a choice and range of qualifications or Competency Standard Units through appropriate training for organisations and personnel seeking formal recognition of respective skills and knowledge. It is recognised that other training pathways may exist in the form of other national Training Packages and arrangements.

The prime objective of the Gas Industry Training Package is to establish the standards of performance in terms of skills and knowledge required for safe, productive and satisfying work covering a range of work activities. RTOs can develop appropriate industry-approved training programs to meet these objectives or indeed to meet other Training Package objectives. The determining factor will be choice — choice of Training Package, and choice of provider — RTO. Where New Apprenticeships apply, choice in relation to funding to RTOs will be guided by policy enunciated by State and Territory Training Authorities.

Other Industry Standards

It is recognised that the Gas Industry Standards do not cover all the competencies, which are likely to be required and applied within organisations and workplaces. Nationally endorsed competency standards from other industries can be used where appropriate, provided they are imported in accordance with the criteria outlined in this Training Package.

Language, Literacy, Numeracy

The competency standards have been written to reflect the technical and operational needs of industry and include appropriate language, literacy and numeracy requirements. Please refer to Volume 2 Part 3 for more information on these requirements.

Access and Equity

The knowledge and skills required of employees in the Gas Industry are comprehensive. The Competency Standards reflect the range of knowledge and skills required and are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

Contextualisation

In the Competency Standard Units, ‘notes’ have been placed against respective aspects that include scope, Performance Criteria, Range Statement and Essential Knowledge and associated skills and other related sections. The insertion of these ‘notes’ is primarily to provide users and support material developers with examples of the form and type of technical content principles, technology, equipment or processes required. The examples should be treated as information that adds clarity and provides guidance regarding the depth and breadth of learning objectives.

As the type, form, process or technique of technology and equipment may change it is expected and indeed incumbent on RTOs to be current in the content and delivery arrangements. It is therefore appropriate for RTOs to use the notes as advisory information. In these instances RTOs should aim to accommodate the adoption of improved and new technologies in the scope/range and essential knowledge and associated skills of the Competency Standard Units by varying the context examples given in the referenced 'notes' to the Performance Criteria, Range Statement and Essential knowledge and associated skills. However, the contextualisation must not be such that the outcome of the Competency Standard Units is altered in any way.
Where contextualisation of the notes varies the outcome of the Competency Standard Unit and its related content, RTOs should consult with EE-Oz Training Standards to explore options for incorporating and/or covering the new arrangements, so that currency of the Training package is maintained.
It should be noted that any need to alter a Competency Standard Units from its intended outcome requires a new or varied Competency Standard Units. Such changes are to be undertaken through the continuous improvement processes required of Training Packages, which in relation to this Training Package is managed by EE-Oz Training Standards.
Also refer to Volume 1 Part 1 — Qualifications Framework, of this Gas Industry Training Package.

1.2.03 Unit Construction

2.3 Unit Construction

Competency Standard Units that have been successfully attained by learners are to be acknowledged. Some units have been constructed in a manner that will allow reporting without further explanation. However, there are units from related Utilities Industry Training Packages that have been constructed in a manner that requires further reporting of relevant transferable information, i.e. a reporting statement of information that is meaningful for maximum recognition and skills transfer. Generally this would be any endorsement or subset of the unit, as well as detailed formal advice about essential knowledge and skills.
If, in future developments of this Training Package, endorsements are included, further information will be provided. Information can be found in the Gas Industry Training Package or the Electrotechnology Training Package.

Pre-requisites

It is important to note that in relation to training delivery of pre-requisites to Competency Standard Units, training and formative staged assessments may be delivered for all, or part of the sequence of Competency Standard Units concurrently and at a different stage to the final assessment of each unit. However, the final assessment event and judgement for attributing competence for each unit shall follow the pre-requisite sequence.

Exporting CSUs from this Training Package

No Standard Competency Unit from this Training Package is to be used in isolation or exported without including all relevant interrelated components such as definitions, glossary, essential knowledge and skills, matters related to language, literacy and numeracy, access, equity, cultural diversity or any regulatory arrangements that apply.

1.2.04 Assessment Guidelines

2.4 Assessment Guidelines

The Gas Industry has developed guidelines for the assessment of these standards. The guidelines are included at Volume 1 Part 3 of this Training Package.

1.2.05 National Qualifications

2.5 National Qualifications

The Gas Industry has identified qualifications, which are linked to and use the competency standards. These are detailed in Volume 1 Part 1 — Qualifications Framework of this Training Package.

Included in the Gas Industry Qualifications Framework are details of the content and composition of the qualifications, the, completion requirements and the rules for structuring and flexibility arrangements and the qualifications structure for each qualification. Further, there is a full description provided for each qualification, which explains its application and the grouping of units making up the respective qualification.

1.2.06 Regulatory Arrangements - Gas Industry

2.6 Regulatory Arrangements — Gas Industry

The Gas Industry is subject to a high level of regulation and codes of practice related to the supply of natural gas and LPG and the operation of equipment, apparatus and the like in the supply of such services. The regulations and codes of practice are based on principles of the supply of natural gas and LPG involving equipment, apparatus and systems, public safety, safety and health of individuals who work on systems and apparatus/equipment and other codes and practices related to the environment in which they are installed and maintained.
Competency Standard Units in this Training Package have been developed in consultation with the relevant industry technical and business Regulators so that, where appropriate, these align to the requirements of legislation, regulations and mandated codes of practice.
Licensing and regulatory authorities will recognise a range of Competency Standard Units contained within this Training Package for respective licensing, registration or accreditation purposes. In constructing these Competency Standard Units, EE-Oz Training Standards and respective Regulators have given consideration to the link between the delivery and assessment of Competency Standard Units and the respective regulatory requirements. It is expected that the assessment and preferred training regime which meets a Competency Standard Unit's delivery and assessment requirements will therefore meet the relevant regulatory requirements.
In recognising this interrelationship, every effort has been made to ensure currency in regulatory requirements, thus RTOs must ensure they are observed. This includes utilising any recommended industry training program designed to meet Competency Standard Units which are related to licensing/registration applications.
As RTO's registered under the Australian Quality Training Framework (AQTF) requirements are given full responsibility for deeming a learner/apprentice competent for the respective Competency Standard Units within this Training Package. The RTO shall also provide all the necessary documentation (including results preferably percentile based) as required by the regulatory authority to support an application of eligibility for a relevant license, registration or accreditation.
It should be noted that regulatory authorities have advised that the quality of Registered Training Organisations awarding Competency Standard Units for regulatory purposes will be monitored. Where deficiencies are identified, regulators may deem it necessary to introduce appropriate actions, including an additional 'external' assessment following the issuing of the qualification to satisfy eligibility requirements for issuing the licence.

Statutes, Regulations and Codes of Practice

The Gas Industry is covered by Federal, State and Territory Gas Safety, Telecommunications, Occupational Health and Safety and Work Cover Acts as well as other statutes, regulations, industrial instruments, codes of practice, guidelines and advisory standards, Australian/New Zealand and International Standards.
Information relevant to the Gas Industry sector can be found in the following Internet sites:
Gas Technical Regulators Committee (GTRC)
http://www.gtrc.gov.au

State and Territory Regulators

Jurisdiction	Organisation	Website	Telephone Number
Australian Capital Territory	ACT Planning and Land Authority	www.actpla.act.gov.au	02 6207 1923
New South Wales	Office of Fair Trading	www.fairtrading.nsw.gov.au	133 220
Northern Territory	NT WorkSafe	www.worksafe.nt.gov.au	1800 019 115
Queensland	Department of Mines and Energy	http://www.dme.qld.gov.au/Energy/gas.cfm	07 3237 1626
South Australia	Office of the Technical Regulator	http://www.sa.gov.au/government/entity/959	08 8226 5500
South Australia	Office of Consumer and Business Affairs	www.ocba.sa.gov.au	08 8204 9696
Tasmania	WorkCover Tasmania	www.workcover.tas.gov.au	1300 776 572
Tasmania	Workplace Standards Tasmania	http://www.wst.tas.gov.au/industries/gas	1300 135 513
Victoria	Energy Safe Victoria	www.esv.vic.gov.au	03 9203 9700
Western Australia	Department of Consumer and Employment Protection - Energy Safety	www.energysafety.wa.gov.au	08 9422 5282
Western Australia	Office of Energy	http://www.energy.wa.gov.au/2/3176/64/gas.pm	08 9420 5600

Other Bodies

Organisation	**Website**

Standards Australia	www.standards.org.au
Department of Education, Employment and workplace Relations	http://www.deewr.gov.au/
SafeWork Australia	http://safeworkaustralia.gov.au/
Training.gov.au	http://training.gov.au/

1.2.07 Maintenance of Competency Standards

2.7 Maintenance of Competency Standards

The Gas Industry competency standards were developed by, and are therefore owned by, the industry. However, it is acknowledged that copyright ownership with respect to this material rests with the Commonwealth.
The competency standards must be maintained so that they reflect the ongoing needs of the Gas Industry and respond in a timely manner to changed technologies and circumstances.
The parties (as detailed in the Introduction to this Training Package) who constitute the Gas Industry sector of the ElectroComms and EnergyUtilities Industry Skills Council share responsibility for the maintenance of the Competency Standards:

- Competency Standards maintenance will be coordinated and managed by ElectroComms and EnergyUtilities Industry Skills Council Ltd trading as EE-Oz Training Standards or its successor.
- Suggestions and proposals for changes from all parties are welcomed. These should be documented and submitted to EE-Oz Training Standards in accordance with its policies and procedures.
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1.2.08 What is Competency?

2.8 What is Competency?

The broad concept of industry competency concerns the ability to perform particular tasks and duties to the standard of performance expected in the workplace. Competency requires the application of specified skills, knowledge and attitudes relevant to effective participation in an industry, industry sector or enterprise.
Competency covers all aspects of workplace performance and involves performing individual tasks; managing a range of different tasks; responding to contingencies or breakdowns; and, dealing with the responsibilities of the workplace, including working with others. Workplace competency requires the ability to apply relevant skills, knowledge and attitudes consistently over time and in the required workplace situations and environments. In line with this concept of competency Training Packages focus on what is expected of a competent individual in the workplace as an outcome of learning, rather than focussing on the learning process itself.
Competency standards in Training Packages are determined by industry to meet identified industry skill needs. Competency standards are made up of a number of units of competency each of which describes a key function or role in a particular job function or occupation. Each unit of competency within a Training Package is linked to one or more AQF qualifications.

Contextualisation of Units of Competency by RTOs

Registered Training Organisations (RTOs) may contextualise units of competency in this endorsed Training Package to reflect required local outcomes. Contextualisation could involve additions or amendments to the unit of competency to suit particular delivery methods, learner profiles, specific enterprise equipment requirements, or to otherwise meet local needs. However, the integrity of the overall intended outcome of the unit of competency must be maintained.
Any contextualisation of units of competency in this Training Package must be within the bounds of the following advice:

- RTOs must not remove or add to the number and content of elements and performance criteria.
- RTOs can include specific industry terminology in the range statement.
- Any amendments and additions to the range statement made by RTOs must not diminish the breadth of application of the competency, or reduce its portability.
- RTOs may add detail to the evidence guide in areas such as the critical aspects of evidence or required resources and infrastructure—but only where these expand the breadth of the competency and do not limit its use.

Components of Units of Competency

The components of units of competency are summarised below, in the order in which they appear in each unit of competency.

Unit Title

The unit title is a succinct statement of the outcome of the unit of competency. Each unit of competency title is unique, both within and across Training Packages.

Unit Descriptor

The unit descriptor broadly communicates the content of the unit of competency and the skill area it addresses. Where units of competency have been contextualised from units of competency from other endorsed Training Packages, summary information is provided. There may also be a brief second paragraph that describes its relationship with other units of competency, and any licensing requirements.

Employability Skills

This sub-section contains a statement that the unit contains Employability skills.

Pre-requisite Units (optional)

If there are any units of competency that must be completed before the unit, these will be listed.

Application of the Unit

This sub-section fleshes out the unit of competency's scope, purpose and operation in different contexts, for example, by showing how it applies in the workplace.

Competency Field (Optional)

The competency field either reflects the way the units of competency are categorised in the Training Package or denotes the industry sector, specialisation or function. It is an optional component of the unit of competency.

Sector (optional)

The industry sector is a further categorisation of the competency field and identifies the next classification, for example an elective or supervision field.

Elements of Competency

The elements of competency are the basic building blocks of the unit of competency. They describe in terms of outcomes the significant functions and tasks that make up the competency.

Performance Criteria

The performance criteria specify the required performance in relevant tasks, roles, skills and in the applied knowledge that enables competent performance. They are usually written in passive voice. Critical terms or phrases may be written in bold italics and then defined in range statement, in the order of their appearance in the performance criteria.

Required Skills and Knowledge

The essential skills and knowledge are either identified separately or combined. Knowledge identifies what a person needs to know to perform the work in an informed and effective manner. Skills describe the application of knowledge to situations where understanding is converted into a workplace outcome.

Range Statement

The range statement provides a context for the unit of competency, describing essential operating conditions that may be present with training and assessment, depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. As applicable, the meanings of key terms used in the performance criteria will also be explained in the range statement.

Evidence Guide

The evidence guide is critical in assessment as it provides information to the Registered Training Organisation (RTO) and assessor about how the described competency may be demonstrated. The evidence guide does this by providing a range of evidence for the assessor to make determinations, and by providing the assessment context. The evidence guide describes:

- conditions under which competency must be assessed including variables such as the assessment environment or necessary equipment;
- relationships with the assessment of any other units of competency;
- suitable methodologies for conducting assessment including the potential for workplace simulation;
- resource implications, for example access to particular equipment, infrastructure or situations;
- how consistency in performance can be assessed over time, various contexts and with a range of evidence; and
- the required underpinning knowledge and skills

Employability Skills in Units of Competency

The detail and application of Employability Skills facets will vary according to the job-role requirements of each industry. In developing Training Packages, industry stakeholders are consulted to identify appropriate facets of Employability Skills which are incorporated into the relevant units of competency and qualifications.
Employability Skills are not a discrete requirement contained in units of competency (as was the case with Key Competencies). Employability Skills are specifically expressed in the context of the work outcomes described in units of competency and will appear in elements, performance criteria, range statements and evidence guides. As a result, users of Training Packages are required to review the entire unit of competency in order to accurately determine Employability Skills requirements.

How Employability Skills relate to the Key Competencies

The eight nationally agreed Employability Skills now replace the seven Key Competencies in Training Packages. Trainers and assessors who have used Training Packages prior to the introduction of Employability Skills may find the following comparison useful.

Employability Skills	**Mayer Key Competencies**
Communication	Communicating ideas and information
Teamwork	Working with others and in teams
Problem solving	Solving problems Using mathematical ideas and techniques
Initiative and enterprise	
Planning and organising	Collecting, analysing and organising information

	Planning and organising activities
Self-management	
Learning	
Technology	Using technology

When analysing the above table it is important to consider the relationship and natural overlap of Employability Skills. For example, using technology may involve communication skills and combine the understanding of mathematical concepts.

Explicitly embedding Employability Skills in units of competency

This Training Package seeks to ensure that industry-endorsed Employability Skills are explicitly embedded in units of competency. The application of each skill and the level of detail included in each part of the unit will vary according to industry requirements and the nature of the unit of competency.
Employability Skills must be both explicit and embedded within units of competency. This means that Employability Skills will be:

- embedded in units of competency as part of the other performance requirements that make up the competency as a whole
- explicitly described within units of competency to enable Training Packages users to identify accurately the performance requirements of each unit with regards to Employability Skills.

This Training Package also seeks to ensure that Employability Skills are well-defined and written into units of competency so that they are apparent, clear and can be delivered and assessed as an essential component of unit work outcomes.

Sample unit of competency components showing Employability Skills

The following table shows the sequence of a unit of competency, and each cell contains text taken from a range of units. It provides examples of where and how various Employability Skills could be embedded in each component.
Please note that in the example, the bracketed Employability Skills are provided for clarification only and would not be present in units of competency within this Training Package.

Unit Title	Give formal presentations and take part in meetings (Communication)
Unit Descriptor	This unit covers the skills and knowledge required to promote the use and implementation of innovative work practices to effect change. (Initiative and enterprise)
Element	Proactively resolve issues. (problem solving)

Performance Criteria	Information is organised in a format suitable for analysis and dissemination in accordance with organisational requirements. (Planning and organising)
Range Statement	Software applications may include email, internet, word processing, spreadsheet, database or accounting packages. (technology) Modify activities depending on differing workplace contexts, risk situations and environments. (Learning)
Required Skills and Knowledge	Work collaboratively with others during a fire emergency. (teamwork) Instructions, procedures and other information relevant the maintenance of vessel and port security. (Communication)
Evidence Guide	Evidence of having worked constructively with a wide range of community groups and stakeholders to solve problems and adapt or design new solutions to meet identified needs in crime prevention. In particular, evidence must be obtained on the ability to: assess response options to identified crime-prevention needs and determine the optimal action to be implemented in consultation with relevant others, design an initiative to address identified issues. (Initiative and enterprise).

Employability Skills Summaries and Units of Competency

An Employability Skills Summary exists for each qualification. Summaries include broad advice on industry expectations with regard to Employability Skills at the qualification level. Summaries should be used by trainers and assessors to assist in identifying the Employability Skills requirements contained within units of competency.
Please refer to Volume 1 Part 1 Qualification Framework for the relevant Employability Skill Summary for qualifications in this Training Package

1.2.09 Index of Competency Standard Units

2.9 Index of Competency Standard Units

Index 1 —Gas Industry Competency Standard Units

A - Independent CSUs (000)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG003A	Locate, prove and protect gas	40	2	Nil	UEG20211	UEG20311 UEG20411

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	distribution assets					UEG20511

B - Cross Discipline Common Units (100)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG102B	Carry out work activities in a utilities industry work environment	60	2	Nil	UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311 UEG50211 UEG60211	
UEGNSG104B	Comply with environmental policies and procedures	20	2	Nil	UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311 UEG50211 UEG60211	
UEGNSG105B	Establish the work site	60	2	Nil	UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311 UEG50211 UEG60211	
UEGNSG106B	Coordinate repair of pipeline, facilities and equipment	110	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG107B	Control gas odourisation	110	3	Nil		UEG30211 UEG40311

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
						UEG50211 UEG60211
UEGNSG108B	Operate and monitor pipeline control systems	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG109B	Control field pipeline operations	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG110B	Supervise technical operations for gas distribution/ transmission	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG111B	Produce maintenance strategies and plans for a gas facility	80	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG112B	Conduct isolation procedures for permit to work system for a gas industry work site	80	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG113B	Manage a utilities industry OHS management system	80	5	Nil	UEG50211 UEG60211	
UEGNSG114B	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	100	5	Nil		UEG50211 UEG60211
UEGNSG115B	Manage gas systems projects	80	5	Nil		UEG50211 UEG60211
UEGNSG116B	Manage Gas Industry physical resources	80	5	Nil		UEG50211 UEG60211
UEGNSG117B	Plan and implement the data acquisition and metering	120	6	Nil		UEG60211

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	requirements of a gas system					
UEGNSG118B	Select and commission equipment to meet pressure and temperature control specifications	120	6	Nil		UEG60211
UEGNSG119B	Manage workplace risk in a Gas Industry facility	60	6	Nil		UEG60211
UEGNSG120B	Manage gas system environmental compliance	60	5	Nil	UEG50211 UEG60211	
UEGNSG121B	Prepare safe design specifications of a gas system	120	6	Nil		UEG60211
UEGNSG122B	Manage a customer service gas business unit	120	6	Nil		UEG60211
UEGNSG123B	Manage financial resources in Gas Industry facility	120	6	Nil	UEG60211	
UEGNSG125A	Carry out transmission pipeline construction work activities	40	2	Nil	UEG20311	UEG40311 UEG50211 UEG60211
UEGNSG128A	Establish a transmission pipeline construction work site	40	2	Nil	UEG20311	
UEGNSG131A	Compile a gas industry technical report	20	4	Nil		UEG40311 UEG50211 UEG60211

C - Distribution Discipline (200)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG202B	Construct and lay distribution pipelines	80	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG203B	Commission and decommission gas distribution pipelines	100	3	UEGNSG202B UEGNSG215A		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG204B	Coordinate gas distribution pipeline repair and modifications	110	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG205B	Launch and recover PIG in a gas distribution pipeline	100	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG206B	Perform routine maintenance on distribution pipeline facilities and equipment	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG207B	Coordinate construction, laying and testing of gas distribution pipelines	110	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG208B	Gas distribution pipeline surveillance	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG209B	First on site emergency	80	2	Nil		UEG20211 UEG30211

	response on a distribution pipeline					UEG40311
UEGNSG210B	Supervise and monitor contract staff for work on distribution pipelines	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG212A	Construct, lay and connect a residential single point gas distribution service to a plastic main	40	2	UEENEEE101A UEGNSG102B UEGNSG104B UEGNSG105B UEGNSG215A		UEG20211
UEGNSG213A	Construct, lay and connect a residential single point gas distribution service to a metal main	40	2	UEENEE101A UEGNSG102B UEGNSG104B UEGNSG105B UEGNSG212A UEGNSG215A		UEG20211
UEGNSG214A	Construct and lay gas distribution plastic mains	40	2	UEENEE101A UEGNSG102B UEGNSG104B UEGNSG105B UEGNSG215A		UEG20211
UEGNSG215A	Conduct excavations in the gas industry	40	2	Nil	UEG20211	UEG20311 UEG20411 UEG20511 UEG30211 UEG40311 UEG50211 UEG60211

D - Transmission Discipline (300)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG301	Coat gas pipelines	60	2	Nil		UEG20211

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
B						UEG20311 UEG20411 UEG20511 UEG30211 UEG40311
UEGNSG302B	Maintain pipeline easements	40	2	Nil		UEG20211 UEG20311 UEG20411 UEG30211 UEG40311
UEGNSG304B	Commission/decommission gas transmission pipelines	100	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG305B	Coordinate gas transmission pipeline repair and modifications	110	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG306B	Pipeline pigging in gas transmission pipeline	40	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG307B	Perform routine maintenance on transmission pipeline facilities and equipment	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines	40	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG309B	First on site emergency response on a transmission pipeline	40	4	Nil	UEG40311 UEG50211 UEG60211	
UEGNSG310B	Supervise and monitor contract staff	60	4	Nil		UEG40311 UEG50211 UEG60211

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline	40	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG312B	First response to a facility event	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG313B	Check and report on station conditions	40	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG314B	Liaise with third party and the community to maintain pipeline integrity and community safety	40	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG315B	Aerial transmission pipeline surveillance	40	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG316B	Site control of excavations in the vicinity of a transmission pipeline	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG317B	Monitor and report on cathodic protection systems	40	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG318B	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	100	4	UEGNSG304B		UEG40311 UEG50211 UEG60211
UEGNSG319B	Custody transfer metering and gas quality analysis	80	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG320A	Right of way access preparation for transmission pipeline construction	30	2	Nil		UEG20311 UEG30211 UEG40311

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
						UEG50211 UEG60211
UEGNSG321A	Undertake hydrotesting for transmission pipeline construction	30	2	Nil		UEG20311
UEGNSG322A	Undertake rigging operations for transmission pipeline construction	30	2	CPCCLDG3001A CPCCLRG3001A		UEG20311
UEGNSG323A	Operate transmission pipeline construction plant and equipment	30	2	UEGNSG125A UEGNSG128A UEGNSG104B UEENEE101A		UEG20311
UEGNSG324A	Follow procedures to deal with incidents related to the abuse of drugs and alcohol	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG325A	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	60	4	UEGNSG328A		UEG40311 UEG50211 UEG60211
UEGNSG326A	Coordinate and monitor staff and contractors	60	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG327A	Coordinate transmission pipeline construction operations	60	4	UEGNSG320A UEGNSG328A		UEG40311 UEG50211 UEG60211
UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines	60	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG329A	Gas transmission pipeline surveillance	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211

E - Cathodic Protection Discipline (400)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG401B	Maintain cathodic protection systems	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG402B	Install cathodic protection systems	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211

F - Control Centre Discipline (500)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG501B	Operate gas infrastructure to meet nominated demand	60	4	UEGNSG203B or UEGNSG304B		UEG40311 UEG50211 UEG60211
UEGNSG502B	Control centre communication with gas industry stakeholders	60	4	UEGNSG203B or UEGNSG304B		UEG40311 UEG50211 UEG60211
UEGNSG503B	Manage emergencies and critical incidents for gas infrastructure	80	5	UEGNSG203B or UEGNSG304B		UEG50211 UEG60211
UEGNSG504B	Monitoring and controlling field activities	60	4	UEGNSG203B or UEGNSG304B		UEG40311 UEG50211 UEG60211
UEGNSG505B	Use control centre systems to monitor and control gas infrastructure	60	4	UEGNSG203B or UEGNSG304B		UEG40311 UEG50211 UEG60211

G - Gaseous Fuel Vessels Discipline (600)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG602B	Load, discharging LPG by road tanker	80	2	Nil		UEG20411 UEG20511 UEG30211 UEG40311
UEGNSG603B	Load, unload and exchanging gas cylinders	80	2	Nil		UEG20411 UEG20511 UEG30211 UEG40311
UEGNSG604B	Fill gas cylinders	80	2	Nil	UEG20411	UEG20511 UEG30211 UEG40311
UEGNSG605B	Refurbish gas cylinders	80	2	Nil		UEG20411 UEG20511 UEG30211 UEG40311
UEGNSG606B	Monitor and control the transfer of LPG	100	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG607B	Process LPG	100	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG608B	Perform minor maintenance on gas processing/storage facilities and equipment	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG609B	Coordinate repair of faults in gas processing/storage facilities and equipment	80	4	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG610B	Control storage of LPG in terminal	110	3	Nil		UEG30211 UEG40311 UEG50211

						UEG60211
UEGNSG611B	Control LPG storage/processing operations	80	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG612B	Supervise technical operations for liquefied petroleum gas storage and processing	80	4	Nil		UEG40311 UEG50211 UEG60211
UEGNSG613A	Assess the operational capability of gas safety equipment on delivery vehicles	40	2	Nil	UEG20511	UEG20211 UEG20311 UEG20411 UEG30211 UEG40311

H - Support Services Discipline (700)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG701B	Process meter reading information using appropriate technology	40	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511
UEGNSG702B	Read and record meter readings	40	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511
UEGNSG703B	Investigate billing exceptions/conditions	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211
UEGNSG704A	Conduct an appliance relight	40	2	UEGNSG701B UEGNSG702B		UEG20211 UEG20311 UEG20411 UEG20511

I - Pressure Control Discipline (800)

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEGNSG801B	Monitor and operate flow control, measuring and regulating devices for gas pressure control	110	3	Nil		UEG30211 UEG40311 UEG50211 UEG60211

Index 2 - Imported Units

BSB07 Business Services Training Package

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
BSBFLM303C	Contribute to effective workplace relationships	40	3	Nil		UEG30211
BSBFLM305C	Support operational plan	40	3	Nil		UEG30211
BSBFLM306C	Provide workplace information and resourcing plans	40	3	Nil		UEG30211
BSBFLM309C	Support continuous improvement systems and processes	40	3	Nil		UEG30211
BSBFLM311C	Support a workplace learning environment	40	3	Nil		UEG30211
BSBFLM312B	Contribute to team effectiveness	40	3	Nil		UEG30211
BSBINN301A	Promote innovation in a team environment	40	3	Nil		UEG30211
BSBWOR301B	Organise personal work priorities and	40	3	Nil		UEG30211

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	professional development					
BSBCUS401B	Coordinate implementation of customer service strategies	40	4	Nil		UEG40311
BSBINM401A	Implement workplace information system	40	4	Nil		UEG40311
BSBLED401A	Develop teams and individuals	40	4	Nil		UEG40311
BSBMGT402A	Implement operational plan	40	4	Nil		UEG40311
BSBMGT403A	Implement continuous improvement	40	4	Nil		UEG40311
BSBWOR401A	Establish effective workplace relationships	50	4	Nil		UEG40311
BSBWOR402A	Promote team effectiveness	50	4	Nil		UEG40311
BSBWOR404A	Develop Work Priorities	40	4	Nil		UEG40311
BSBCUS501A	Manage quality customer service	40	5	Nil		UEG50211 UEG60211
BSBINM501A	Manage an information or knowledge management system	50	5	Nil		UEG50211 UEG60211
BSBINN502A	Build and sustain an innovative work environment	50	5	Nil		UEG50211 UEG60211
BSBLED501A	Develop a workplace learning environment	60	5	Nil		UEG50211 UEG60211
BSBMGT502B	Manage people performance	70	5	Nil		UEG50211 UEG60211

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
BSBMGT515A	Manage operational plan	60	5	Nil		UEG50211 UEG60211
BSBMGT516C	Facilitate continuous improvement	60	5	Nil		UEG50211 UEG60211
BSBWHS501A	Ensure a Safe Workplace	60	5	Nil		UEG50211 UEG60211
BSBWOR501B	Manage personal work priorities and professional development	60	5	Nil		UEG50211 UEG60211
BSBWOR502B	Ensure team effectiveness	60	5	Nil		UEG50211 UEG60211
BSBWHS301A	Maintain workplace safety	40	3	Nil		UEG30211 UEG40311

CPC08 Construction, Plumbing and Services Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
CPCCLDG3001A	Licence to perform dogging	30	3	Nil		UEG20311 UEG30211
CPCCLRG3001A	Licence to perform rigging basic level	40	3	Nil		UEG20311 UEG30211
CPCCLRG3002A	Licence to perform rigging intermediate level	40	3	Nil		UEG30211
CPCCOHS1001A	Work safely in the construction industry	10	2	Nil		UEG20211 UEG20311 UEG30211
CPCPCM4012A	Estimate and cost work	40	4	Nil		UEG40311

HLT07 Health Training Package

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
HLTFA311A	Apply first aid	10	2	Nil	UEG40311	UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311
HLTFA302C	Provide first aid in remote situation	10	2	HLTFA311A		UEG20211 UEG20311 UEG20411 UEG20511
HLTCPR211A	Perform CPR	10	2	Nil	UEG40311	UEG30211 UEG40311

RII09 Resources and Infrastructure Industry Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
RIIMPO308A	Conduct tracked dozer operations	40	2	Nil		UEG20211 UEG20311 UEG30211
RIIMPO309A	Conduct wheeled dozer operations	40	3	Nil		UEG30211
RIIMPO318B	Conduct civil construction skid steer loader operations	70	2	Nil		UEG20211 UEG20311 UEG30211
RIIMPO319A	Conduct backhoe/loader operations	50	3	Nil		UEG30211
RIIHAN309A	Conduct Telescopic Materials Handler Operations	80	3	Nil		UEG30211

TLI07 Transport and Logistics Training Package

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
TLILIC2016A	Licence to drive heavy rigid vehicles	40	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511 UEG30211
TLIF2012A	Apply safe procedures when handling/transporting goods or explosives	40	2	Nil	UEG20511	UEG20211 UEG20311 UEG20411
TLIC2025A	Operate Four Wheel Drive Vehicle	20	2	Nil		UEG20211 UEG20311 UEG20411
TLILIC3017A	Licence to drive heavy combination vehicle	30	2			UEG20511 UEG30211
TLILIC2001A	Licence to operate a forklift truck	40	3	Nil		UEG20211 UEG20311 UEG20411 UEG20511 UEG30211
TLILIC0012A	License to operate a vehicle loading crane (Capacity 10 metre tonnes and above)	40	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511 UEG30211
TLILIC3006A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	40	3	Nil		UEG30211
TLILIC3008A	Licence to operate a slewing mobile crane (up to 20 tonnes)	60	3	Nil		UEG30211
TLILIC4009A	Licence to operate a slewing mobile crane (up to 60 tonnes)	70	3	Nil		UEG30211

UEE07 Electrotechnology Training Package

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEENEEC001B	Maintain documentation	20	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511
UEENEED101A	Use computer applications relevant to a workplace	20	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20	2	Nil	UEG40311	UEG50211 UEG60211
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace	20	2	Nil	UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311 UEG50211 UEG60211	
UEENEEE102A	Fabricate, dismantle, assemble of utilities industry components	40	2	UEENEEE101A		UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40	2	UEENEEE101A		UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311
UEENEEM020A	Attend to breakdowns in	20	3	UEENEEM080A		UEG30211 UEG40311

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	hazardous areas — gas atmospheres					UEG50211 UEG60211
UEENEEM076A	Use and maintain the integrity of a portable gas detection device	20	3	UEENEEM080A		UEG30211 UEG40311 UEG50211 UEG60211
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511 UEG30211 UEG40311 UEG50211 UEG60211

UEP06 Electricity Supply Industry - Generation Sector Training Package

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS203B	Operate and monitor communications system	20	2	Nil	UEG20511	UEG20211 UEG20311 UEG20411
UEPOPS205B	Conduct minor mechanical maintenance	30	2	Nil		UEG20211 UEG20311 UEG20411 UEG20511

UET09 Transmission, Distribution and Rail Sector Training Package

Unit Code	Unit Title	Wtg. Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UETTDREL14A	Working safely	40	2	Nil		UEG20211

	near live electrical apparatus as non electrical worker					UEG20311 UEG20411 UEG20511 UEG30211 UEG40311
UETTDREL15A	Respond to technical enquiries and requests	60	3	Nil	UEG40311	UEG50211 UEG60211

1.2.10 Diagrams Showing Unit Relationships

2.10 Mapping of Competency Standard Units

Relationships between units which have been amended, added or deleted from versions of Gas Industry Training Package

Table 1 — Mapping Units of Standard Competency UEG11 Gas Industry Training Package Version 1 and UEG06 Gas Industry Training Package Version 1.1

CSU Code in UEG11 Version 1	Title	Competency Standard Unit Code UEG06 Version 1.1	Title	Equivalent (E) or Not Equivalent (N)
Deleted	Deleted	UEGNSG001A	Working safely near gas pipelines and other gas	N/A
UEGNSG003A	Locate, prove and protect gas distribution assets	New Unit		New Unit
Deleted	Deleted	UEGNSG101A	Use equipment and tools to perform work in a utilities industry work environment	N/A
UEGNSG102B	Carry out work activities in a utilities industry work environment	UEGNSG102A	Carry out work activities in a utilities industry work environment	E
Deleted	Deleted	UEGNSG103A	Comply with workplace OHS procedures and practices	N/A
UEGNSG104B	Comply with environmental policies and procedures	UEGNSG104A	Comply with environmental policies and procedures	E
UEGNSG105B	Establish the work site	UEGNSG105A	Establish the work site	E
UEGNSG106	Coordinate repair of	UEGNSG106	Coordinate repair of	E

B	pipeline, facilities and equipment	A	pipeline, facilities and equipment	
UEGNSG107 B	Control gas odourisation	UEGNSG107 A	Control gas odourisation	E
UEGNSG108 B	Operate and monitor pipeline control systems	UEGNSG108 A	Operate and monitor pipeline control systems	E
UEGNSG109 B	Control field pipeline operations	UEGNSG109 A	Control field pipeline operations	E
UEGNSG110 B	Supervise technical operations for gas distribution/transmission	UEGNSG110 A	Supervise technical operations for gas distribution/transmission	E
UEGNSG111 B	Produce maintenance strategies and plans for a gas facility	UEGNSG111 A	Produce maintenance strategies and plans for a gas facility	E
UEGNSG112 B	Conduct isolation procedures for permit to work system for a gas industry work site	UEGNSG112 A	Conduct isolation procedures for permit to work system for a gas industry work site	E
UEGNSG113 B	Manage a utilities industry OHS management system	UEGNSG113 A	Manage a utilities industry OHS management system	E
UEGNSG114 B	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	UEGNSG114 A	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	E
UEGNSG115 B	Manage gas industry systems projects	UEGNSG115 A	Manage gas industry systems projects	E
UEGNSG116 B	Manage gas industry physical resources	UEGNSG116 A	Manage gas industry physical resources	E
UEGNSG117 B	Plan and implement the data acquisition and metering requirements of a gas system	UEGNSG117 A	Plan and implement the data acquisition and metering requirements of a gas system	E
UEGNSG118 B	Select and commission equipment to meet pressure and temperature control specifications	UEGNSG118 A	Select and commission equipment to meet pressure and temperature control specifications	E

UEGNSG119 B	Manage workplace risk in a gas industry facility	UEGNSG119 A	Manage workplace risk in a gas industry facility	E
UEGNSG120 B	Manage gas system environmental compliance	UEGNSG120 A	Manage gas system environmental compliance	E
UEGNSG121 B	Prepare safe design specifications of a gas system	UEGNSG121 A	Prepare safe design specifications of a gas system	E
UEGNSG122 B	Manage a customer service gas business unit	UEGNSG122 A	Manage a customer service gas business unit	E
UEGNSG123 B	Manage financial resources in a gas industry facility	UEGNSG123 A	Manage financial resources in a gas industry facility	E
Deleted	Deleted	UEGNSG124 A	Install and maintain process control systems — extra low voltage	N/A
UEGNSG125 A	Carry out transmission pipeline construction work activities	New Unit		New Unit
UEGNSG128 A	Establish a transmission pipeline construction work site	New Unit		New Unit
UEGNSG131 A	Compile a gas industry technical report	New Unit		New Unit
Deleted	Deleted	UEGNSG201 A	Excavate for underground utilities services operating plant and equipment	N/A
UEGNSG202 B	Construct and lay distribution pipelines	UEGNSG202 A	Construct and lay distribution pipelines	E
UEGNSG203 B	Commission/decommission gas distribution pipelines	UEGNSG203 A	Commission/decommission gas distribution pipelines	E
UEGNSG204 B	Coordinate gas distribution pipeline	UEGNSG204 A	Coordinate gas distribution pipeline	E

	repair and modifications		repair and modifications	
UEGNSG205 B	Launch and recover PIG in a gas distribution pipeline	UEGNSG205 A	Launch and recover PIG in a gas distribution pipeline	E
UEGNSG206 B	Perform routine maintenance on distribution pipeline facilities and equipment	UEGNSG206 A	Perform routine maintenance on distribution pipeline facilities and equipment	E
UEGNSG207 B	Coordinate construction, laying and testing of gas distribution pipelines	UEGNSG207 A	Coordinate construction, laying and testing of gas distribution pipelines	E
UEGNSG208 B	Gas distribution pipeline surveillance	UEGNSG208 A	Gas distribution pipeline surveillance	E
UEGNSG209 B	First on site emergency response on a distribution pipeline	UEGNSG209 A	First on site emergency response on a distribution pipeline	E
UEGNSG210 B	Supervise and monitor contract staff for work on distribution pipelines	UEGNSG210 A	Supervise and monitor contract staff for work on distribution pipelines	E
Deleted	Deleted	UEGNSG211 A	Lay underground electrical supply cables	N/A
UEGNSG212 A	Construct, lay and connect a residential single point gas distribution service to a plastic main	New Unit		New Unit
UEGNSG213 A	Construct, lay and connect a residential single point gas distribution service to a metal main	New Unit		New Unit
UEGNSG214 A	Construct and lay gas distribution plastic mains	New Unit		New Unit
UEGNSG215 A	Conduct excavations in the gas industry	New Unit		New Unit

UEGNSG301 B	Coat gas pipelines	UEGNSG301 A	Coat gas pipelines	E
UEGNSG302 B	Maintain pipeline easements	UEGNSG302 A	Maintain pipeline easements	E
Deleted	Deleted	UEGNSG303 A	Ground transmission pipeline surveillance	E
UEGNSG304 B	Commission/decommissi on gas transmission pipelines	UEGNSG304 A	Commission/decommissi on gas transmission pipelines	E
UEGNSG305 B	Coordinate gas transmission pipeline repair and modification	UEGNSG305 A	Coordinate gas transmission pipeline repair and modification	E
UEGNSG306 B	Pipeline pigging in gas transmission pipeline	UEGNSG306 A	Pipeline pigging in gas transmission pipeline	E
UEGNSG307 B	Perform routine maintenance on transmission pipeline facilities and equipment	UEGNSG307 A	Perform routine maintenance on transmission pipeline facilities and equipment	E
UEGNSG308 B	Identify, evaluate and control threats to transmission pipelines	UEGNSG308 A	Identify, evaluate and control threats to transmission pipelines	E
UEGNSG309 B	First on site emergency response on a transmission pipeline	UEGNSG309 A	First on site emergency response on a transmission pipeline	E
UEGNSG310 B	Supervision and monitor contract work	UEGNSG310 A	Supervision and monitor contract work	E
UEGNSG311 B	Site control of third party works in the vicinity of a transmission pipeline	UEGNSG311 A	Site control of third party works in the vicinity of a transmission pipeline	E
UEGNSG312 B	First response to a facility event	UEGNSG312 A	First response to a facility event	E
UEGNSG313 B	Check and report on station conditions	UEGNSG313 A	Check and report on station conditions	E
UEGNSG314 B	Liaise with third party and the community to maintain pipeline	UEGNSG314 A	Liaise with third party and the community to maintain pipeline	E

	integrity and community safety		integrity and community safety	
UEGNSG315 B	Aerial transmission pipeline surveillance	UEGNSG315 A	Aerial transmission pipeline surveillance	E
UEGNSG316 B	Site control of excavations in the vicinity of a transmission pipeline	UEGNSG316 A	Site control of excavations in the vicinity of a transmission pipeline	E
UEGNSG317 B	Monitor and report on cathodic protection systems	UEGNSG317 A	Monitor and report on cathodic protection systems	E
UEGNSG318 B	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	UEGNSG318 A	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	E
UEGNSG319 B	Custody transfer metering and gas quality analysis	UEGNSG319 A	Custody transfer metering and gas quality analysis	E
UEGNSG320 A	Establish right of way access for transmission pipeline construction	New Unit		New Unit
UEGNSG321 A	Undertake hydrotesting for transmission pipeline construction	New Unit		New Unit
UEGNSG322 A	Undertake rigging operations for transmission pipeline construction	New Unit		New Unit
UEGNSG323 A	Operate transmission pipeline construction plant and equipment	New Unit		New Unit
UEGNSG324 A	Follow company procedures to deal with incidents related to the abuse of drugs and alcohol	New Unit		New Unit
UEGNSG325	Coordinate the operation	New Unit		New

A	of relevant plant and equipment for transmission pipeline construction			Unit
UEGNSG326 A	Coordinate and monitor staff and contractors	New Unit		New Unit
UEGNSG327 A	Coordinate transmission pipeline construction operations	New Unit		New Unit
UEGNSG328 A	Supervise the operation of relevant plant and equipment for transmission pipeline construction	New Unit		New Unit
UEGNSG329 A	Ground transmission pipeline surveillance	New Unit		New Unit
UEGNSG401 B	Maintain cathodic protection systems	UEGNSG401 A	Maintain cathodic protection systems	E
UEGNSG402 B	Install cathodic protection systems	UEGNSG402 A	Install cathodic protection systems	E
UEGNSG501 B	Operate gas infrastructure to meet nominated demand	UEGNSG501 A	Operate gas infrastructure to meet nominated demand	E
UEGNSG502 B	Control centre communication with gas industry stakeholders	UEGNSG502 A	Control centre communication with gas industry stakeholders	E
UEGNSG503 B	Manage emergencies and critical incidents for gas infrastructure	UEGNSG503 A	Manage emergencies and critical incidents for gas infrastructure	E
UEGNSG504 B	Monitoring and controlling field activities	UEGNSG504 A	Monitoring and controlling field activities	E
UEGNSG505 B	Use control centre systems to monitor and control gas infrastructure	UEGNSG505 A	Use control centre systems to monitor and control gas infrastructure	E
Deleted	Deleted	UEGNSG601 A	Assess the operational capability of gas safety	N/A

			equipment on tankers	
UEGNSG602B	Load, discharging LPG by road tanker	UEGNSG602A	Load, discharging LPG by road tanker	E
UEGNSG603B	Load, unload and exchanging gas cylinders	UEGNSG603A	Load, unload and exchanging gas cylinders	E
UEGNSG604B	Fill gas cylinders	UEGNSG604A	Fill gas cylinders	E
UEGNSG605B	Refurbish gas cylinders	UEGNSG605A	Refurbish gas cylinders	E
UEGNSG606B	Monitor and control the transfer of LPG	UEGNSG606A	Monitor and control the transfer of LPG	E
UEGNSG607B	Process LPG	UEGNSG607A	Process LPG	E
UEGNSG608B	Perform minor maintenance on gas processing/storage facilities and equipment	UEGNSG608A	Perform minor maintenance on gas processing/storage facilities and equipment	E
UEGNSG609B	Coordinate repair of faults in gas processing/storage facilities and equipment	UEGNSG609A	Coordinate repair of faults in gas processing/storage facilities and equipment	E
UEGNSG610B	Control storage of LPG in terminal	UEGNSG610A	Control storage of LPG in terminal	E
UEGNSG611B	Control LPG storage/processing operations	UEGNSG611A	Control LPG storage/processing operations	E
UEGNSG612B	Supervise technical operations for liquefied petroleum gas storage and processing	UEGNSG612A	Supervise technical operations for liquefied petroleum gas storage and processing	E
UEGNSG613A	Assess the operational capability of gas safety equipment on delivery vehicles	New Unit		New Unit
UEGNSG701	Process meter reading	UEGNSG701	Process meter reading	E

B	information using appropriate technology	A	information using appropriate technology	
UEGNSG702B	Read and record meter readings	UEGNSG702A	Read and record meter readings	E
UEGNSG703B	Investigate billing exceptions/conditions	UEGNSG703A	Investigate billing exceptions/conditions	E
UEGNSG704A	Conduct an appliance relight	New Unit		New Unit
UEGNSG801B	Monitor and operate complex flow control, measuring and regulating devices for gas pressure control	UEGNSG801A	Monitor and operate complex flow control, measuring and regulating devices for gas pressure control	E
Deleted	Deleted	UEGNSG802A	Install flow control, measuring and regulating devices for gas pressure control	N/A

Table 2 - Mapping of Units from UEE07 to "XX" units in UEG06 Version 1

UEG06 Version 1.1 CSU Code	**Title**	**UEG06 Version 1 Competency Standard Unit Code**	**Relationship and comments to units in the former Training Package**	**Prerequisite requirements (for relevant pre-requisite or co-requisite refer respective unit)**	**AQF Align.**	**Weighting Points**	**Equivalent - Full, part or not**
UEENEEM001B	Report on the integrity of explosion-protected equipment in hazardous areas	UEENEEMXX1A	New Imported unit from UEE07 replacing "XX" unit	Plant or machinery operation or installations, maintenance or service functions at AQF level	2	30	Full

UEG06 Version 1.1 CSU Code	Title	UEG06 Version 1 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (for relevant pre-requisite or co-requisite refer respective unit)	AQF Align.	Weighting Points	Equivalent - Full, part or not
				2 or equivalent			
UEENEEM002B	Attend to breakdowns in hazardous areas	UEENEEMXX2A	New Imported unit from UEE07 replacing "XX" unit	M001B and competencies in attending to breakdowns in general electrical or instrumentation equipment at AQF level 3 or equivalent.	3	30	Full
UEENEEM003B	Use and maintain the integrity of portable gas detection devices	UEENEEMXX3A	New Imported unit from UEE07 replacing "XX" unit	Plant or machinery operation or installations, maintenance or service functions at AQF level 2 or equivalent	3	90	Full

UEG06 Version 1.1 CSU Code	Title	UEG06 Version 1 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (for relevant pre-requisite or co-requisite refer respective unit)	AQF Align.	Weighting Points	Equivalent - Full, part or not
UEENEE002B	Dismantle, assemble and fabricate electrotechnology components	UEENEEEXX2A	New Imported unit from UEE07 replacing "XX" unit	None	1-Feb	180	Full
UEENEE005B	Fix and secure equipment	UEENEEEXX5A	New Imported unit from UEE07 replacing "XX" unit	None	1/02/2003		Full
UEENEE007B	Apply methods to maintain currency of industry developments	UEENEEEXX7A	New Imported unit from UEE07 replacing "XX" unit	None	2		Full
UEENEE008B	Lay wiring/cabling and terminate accessories for extra-low voltage circuits	UEENEEEXX8A	New Imported unit from UEE07 replacing "XX" unit	UEENEE005B; UEENEE007B	2		Full

Table 3 — Mapping Units in former Training Packages UEG06 – Version 1 to UTG98

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
UEGNSG001A	Working safely near gas pipelines and other gas infrastructure	New unit	New unit developed for persons working near gas infrastructure from outside the Gas Industry. This unit is not found in any Gas Industry qualifications	Nil	N/A	N/A	None
UEGNSG101A	Use equipment and tools to perform work in a utilities industry work environment	New unit	New unit developed for Certificate I qualification that was not found in UTG98	Nil	1	Core	None
UEGNSG102A	Carry out work activities in a utilities industry work environment	New unit	New unit developed for Certificate I qualificati	Nil	1 & 2	Core	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
			on that was not found in UTG98				
UEGNSG103A	Comply with workplace OHS procedures and practices	UTGNGS001A UTGNGS002A UTGNGS003A	Re-alignment of UTG98 core competencies into a generic utilities core focus	Nil	2	Core	Part — with relevant range and subject to notes above
UEGNSG104A	Comply with environmental policies and procedures	UTGNGS001A UTGNGS002A UTGNGS003A	Re-alignment of UTG98 core competencies into a generic utilities core focus	Nil	2	Core	Part — with relevant range and subject to notes above
UEGNSG105A	Establish the work site	UTGNGS001A UTGNGS002A UTGNGS003A	Re-alignment of UTG98 core competencies into a generic utilities core focus	Nil	2	Core	Part — with relevant range and subject to notes above
UEGNSG106A	Coordinate repair of pipeline, facilities and equipment	UTGNGS312B	Change of code from UTG98	Nil	3	90	Full — with relevant

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
							range and subject to notes above
UEGNSG107A	Control gas odorisation	UTGNGS313B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG108A	Operate and monitor pipeline control systems	UTGNGS311A	Change of code from UTG98	Nil	4	120	Full — with relevant range and subject to notes above
UEGNSG109A	Control field pipeline operations	UTGNGS314A	Change of code from UTG98	Nil	4	120	Full — with relevant range and subject to notes above
UEGNSG110A	Supervise technical operations for gas distribution/transmission	UTGNGS319A	Change of code from UTG98	Nil	4	120	Full — with relevant range and

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
							subject to notes above
UEGNSG111A	Produce maintenance strategies and plans for a gas facility	New unit	New unit developed for Cert IV qualification not found in UTG98	Nil	4	110	Full — with relevant range and subject to notes above
UEGNSG112A	Conduct isolation procedures for permit to work system for a Gas Industry work site	New unit	New unit developed for Cert IV qualification not found in UTG98	Nil	4	110	None
UEGNSG113A	Manage a utilities industry OHS management system	New unit	New unit developed for Diploma qualification not found in UTG98	Nil	5	Core	None
UEGNSG114A	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	UTGNGS321A	Change of code from UTG98	Nil	5 & 6	160	Full — with relevant range and subject to notes

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
							above
UEGNSG115A	Manage Gas Industry systems projects	UTGNGS606A	Change of code from UTG98	Nil	5 & 6	Core	Full — with relevant range and subject to notes above
UEGNSG116A	Manage Gas Industry physical resources	UTGNGS609A	Change of code from UTG98	Nil	5 & 6	Core	Full — with relevant range and subject to notes above
UEGNSG117A	Plan and implement the data acquisition and metering requirements of a gas system	UTGNGS601A	Change of code from UTG98	Nil	6	Core	Full — with relevant range and subject to notes above
UEGNSG118A	Select and commission equipment to meet pressure and temperature control specifications	UTGNGS602A	Change of code from UTG98	Nil	6	Core	Full — with relevant range and subject to notes above

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
UEGNSG119A	Manage workplace risk in a Gas Industry facility	UTGNGS603A	Change of code from UTG98	Nil	6	Core	Full — with relevant range and subject to notes above
UEGNSG120A	Manage gas system environmental compliance	UTGNGS604A	Change of code from UTG98	Nil	6	Core	Full — with relevant range and subject to notes above
UEGNSG121A	Prepare safe design specifications of a gas system	UTGNGS605A	Change of code from UTG98	Nil	6	Core	Full — with relevant range and subject to notes above
UEGNSG122A	Manage a customer service gas business unit	UTGNGS607A	Change of code from UTG98	Nil	6	Core	Full — with relevant range and subject to notes above
UEGNSG1	Manage financial resources in a Gas	UTGNGS6	Change of code from	Nil	6	Core	Full — with

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
23A	Industry facility	08A	UTG98				relevant range and subject to notes above
UEGNSG124A	Install and maintain process control systems — extra low voltage	New unit	New unit developed for Cert IV qualification not found in UTG98	CIII Gas qualification or trade equivalent from allied industry	4	130	None
UEGNSG201A	Excavate for underground utilities services operating plant and equipment	UTGNGS302A UTGNGS317B UTGNGS318A	Collapsing of 3 units from UTG98 and re-aligned into 2 units in UEG04	Nil	2	30	Part — with relevant range and subject to notes above
UEGNSG202A	Construct and lay distribution pipelines	UTGNGS302A UTGNGS317B UTGNGS318A	Collapsing of 3 units from UTG98 and re-aligned into 2 units in UEG04	Nil	2	30	Part — with relevant range and subject to notes above
UEGNSG203A	Commission and decommission gas	UTGNGS303B	Change of code from	Nil	3	80	Full — with

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
	distribution pipelines		UTG98				relevant range and subject to notes above
UEGNSG204A	Coordinate gas distribution pipeline repair and modifications	UTGNGS306B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG205A	Launch and recover PIG for a gas distribution pipeline	UTGNGS307B	Change of code from UTG98	Nil	3	80	Full — with relevant range and subject to notes above
UEGNSG206A	Perform routine maintenance on distribution pipeline facilities and equipment	UTGNGS310B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG207A	Coordinate construction, laying and testing of gas distribution pipelines	UTGNGS316B	Change of code from UTG98	Nil	3	90	Full — with relevant range

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
							and subject to notes above
UEGNSG208A	Gas distribution pipeline surveillance	New unit	New unit developed for Cert III qualification not found in UTG98	Nil	3	90	None
UEGNSG209A	First on site emergency response on a distribution pipeline	New unit	New unit developed for Cert III qualification not found in UTG98	Nil	3	110	None
UEGNSG210A	Supervise and monitor contract staff for work on distribution pipelines	New unit	New unit developed for Cert III qualification not found in UTG98	Nil	3	110	None
UEGNSG211A	Lay underground electrical supply cables	New unit	New unit develop for Cert III qualification not	Nil	2	30	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
			found in UTG98				
UEGNSG301A	Coat gas pipelines	UTGNGS304A	Change of code from UTG98	Nil	3 & 4	80	Full — with relevant range and subject to notes above
UEGNSG302A	Maintain pipeline easements	UTGNGS305A	Change of code from UTG98	Nil	2 & 4	30	Full — with relevant range and subject to notes above
UEGNSG303A	Gas transmission pipeline surveillance	New unit	New unit developed for Cert III and Cert IV Transmission Pipeline qualification not found in UTG98	Nil	3 & 4	90 (Cert III) Or Core (Cert IV)	None
UEGNSG304A	Commission/decommission gas transmission pipelines	New unit	New unit developed for Cert III	Nil	3	80	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
			qualification not found in UTG98				
UEGNSG305A	Coordinate gas transmission pipeline repair and modification	New unit	New unit developed for Cert III qualification not found in UTG98	Nil	3	90	None
UEGNSG306A	Pipeline pigging in gas transmission pipeline	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	40	None
UEGNSG307A	Perform routine maintenance on transmission pipeline facilities and equipment	New unit	New unit developed for Cert III qualification not found in UTG98	Nil	3	90	None
UEGNSG308A	Identify, evaluate and control threats to transmission	New unit	New unit developed for Cert	Nil	4	Core	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
	pipelines		IV Transmission Pipeline qualification not found in UTG98				
UEGNSG309A	First on site emergency response	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	Core	None
UEGNSG310A	Supervision and monitor contract staff	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	Core	None
UEGNSG311A	Site control of third party works in the vicinity of a transmission pipeline	New unit	New unit developed for Cert IV Transmiss	Nil	4	Core	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
			ion Pipeline qualification not found in UTG98				
UEGNSG312A	First response to a facility event	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	80	None
UEGNSG313A	Check and report on station conditions	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	40	None
UEGNSG314A	Liaise with third party and the community to maintain pipeline integrity and community safety	New unit	New unit developed for Cert IV Transmission Pipeline	Nil	4	90	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
			qualification not found in UTG98				
UEGNSG315A	Aerial transmission pipeline surveillance	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	40	None
UEGNSG316A	Site control of excavations in the vicinity of a transmission	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	80	None
UEGNSG317A	Monitor and report on cathodic protection systems	New unit	New unit developed for Cert IV transmission Pipleine qualification not	Nil	4	40	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
			found in UTG98				
UEGNSG318A	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	New unit	New unit developed for Cert IV qualification not found in UTG98	CIII Gas qualification or trade equivalent from allied industry	4	90	None
UEGNSG319A	Custody transfer metering & gas quality analysis	New Unit	New unit developed for Cert IV qualification not found in UTG98	Nil	4	120	None
UEGNSG401A	Maintain cathodic protection systems	UTGNGS308B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG402A	Install cathodic protection systems	UTGNGS309B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
UEGNSG501A	Operate gas infrastructure to meet nominated demand	New unit	New unit developed for Cert IV qualification not found in UTG98	CIII Gas qualification or trade equivalent from allied industry	4	120	None
UEGNSG502A	Control centre communication with Gas Industry stakeholders	New unit	New unit developed for Cert III qualification not found in UTG98	CIII Gas qualification or trade equivalent from allied industry	4	120	None
UEGNSG503A	Manage emergencies and critical incidents for gas infrastructure	New Unit	New unit developed for Cert IV qualification not found in UTG98	CIII Gas qualification or trade equivalent from allied industry	4	120	None
UEGNSG504A	Monitoring and controlling field activities	New Unit	New unit developed for Cert IV qualification not found in UTG98	CIII Gas qualification or trade equivalent from allied industry	4	130	None
UEGNSG5	Use control centre systems to monitor	New Unit	New unit developed	CIII Gas qualificati	4	110	None

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
05A	and control gas infrastructure		for Cert IV qualification not found in UTG98	on or trade equivalent from allied industry			
UEGNSG601A	Assess the operational capability of gas safety equipment on tankers	UTGNGS201A	Change of code from UTG98	Nil	2	30	Full — with relevant range and subject to notes above
UEGNSG602A	Load, discharging LPG by road tanker	UTGNGS202A	Change of code from UTG98	Nil	2	30	Full — with relevant range and subject to notes above
UEGNSG603A	Load, unload and exchanging gas cylinders	UTGNGS203A	Change of code from UTG98	Nil	2	30	Full — with relevant range and subject to notes above
UEGNSG604A	Fill gas cylinders	UTGNGS204A	Change of code from UTG98	Nil	2	30	Full — with relevant range

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
							and subject to notes above
UEGNSG605A	Refurbish gas cylinders	UTGNGS605A	Change of code from UTG98	Nil	2	30	Full — with relevant range and subject to notes above
UEGNSG606A	Monitor and control the transfer of LPG	UTGNGS206B	Change of code from UTG98	Nil	3	80	Full — with relevant range and subject to notes above
UEGNSG607A	Process LPG	UTGNGS207B	Change of code from UTG98	Nil	3	80	Full — with relevant range and subject to notes above
UEGNSG608A	Perform minor maintenance on gas processing/storage facilities and equipment	UTGNGS208B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
							to notes above
UEGNSG609A	Coordinate repair of faults in gas processing/storage facilities and equipment	UTGNGS209B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG610A	Control storage of LPG in terminal	UTGNGS210B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG611A	Control LPG storage/processing operations	UTGNGS211A	Change of code from UTG98	Nil	4	110	Full — with relevant range and subject to notes above
UEGNSG612A	Supervise technical operations for liquefied petroleum gas storage and processing	UTGNGS320A	Change of code from UTG98	Nil	4	120	Full — with relevant range and subject to notes above

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
UEGNSG701A	Process meter reading information using appropriate technology	New unit	New unit developed for Cert II qualification not found in UTG98	Nil	2	30	None
UEGNSG702A	Read and record meter readings	UTGNGS101A	Change of code from UTG98	Nil	2	30	Full — with relevant range and subject to notes above
UEGNSG703A	Investigate billing exceptions/conditions	UTGNGS102B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG801A	Monitor and operate complex flow control, measuring and regulating devices for gas pressure control	New unit	New unit developed for Cert III qualification not found in UTG98	Nil	3	90	Full — with relevant range and subject to notes above
UEGNSG802A	Install complex flow control, measuring and regulating	New unit	New unit developed for Cert	Nil	3	90	Full — with relevant

CSU Code in UEG06 Version 1	Title	UTG98 Competency Standard Unit Code	Relationship and comments to units in the former Training Package	Prerequisite requirements (also refer to each unit for definitive prerequisites)	AQF	Weighting Points	Equivalent — Full, part or none
	devices for gas pressure control		III qualification not found in UTG98				range and subject to notes above

1.3.00 Assessment Guidelines

Volume 1 Part 3

Assessment Guidelines

1.3.01 Introduction

3.1 Introduction

These Assessment Guidelines provide the endorsed framework for assessment of units of competency in this Training Package. They are designed to ensure that assessment is consistent with the Australian Quality Training Framework (AQTF) Essential Standards for Initial and Continuing Registration. Assessments against the units of competency in this Training Package must be carried out in accordance with these Assessment Guidelines.

Note:

a. Using this guideline to support any assessment strategy or process does not remove the responsibility of employers and employees to ensure appropriate 'duty of care' arrangements are maintained under relevant occupational health and safety legislation, and any other prevailing legislation, regulation, standard or code. RTOs should recognise this in their assessment processes and provide requisite advice.
b. In the assessment process it should be acknowledged that State/Territory regulatory requirements and/or Codes of Practice may vary. Therefore there may be a requirement for the demonstration of a greater range of items to those specified in respective competency standard units. RTOs should incorporate this in their assessment processes and practices.
c.

1.3.02 Assessment System Overview

3.2 Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF requirements; licensing/registration requirements; and assessment pathways.

Quality assessment underpins the credibility of the vocational education and training sector. The Assessment Guidelines of a Training Package are an important tool in supporting quality assessment.

Assessment within the National Skills Framework is the process of collecting evidence and making judgements about whether competency has been achieved to confirm whether an individual can perform to the standards expected in the workplace, as expressed in the relevant endorsed unit of competency.

Assessment must be carried out in accordance with the:

- benchmarks for assessment
- specific industry requirements
- principles of assessment
- rules of evidence
- assessment requirements set out in the AQTF

By way of supporting, and reinforcing, both the concept of competency and the competency standard unit, the Gas Industry embraces the following tenets:

- Wherever practicable, summative (or final) assessment is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with any approved industry and, Regulatory policy in this regard.
- All persons may claim formal recognition for an assessment of an individual competency standard unit, or a group of units (skill clusters).
- All persons have the right to have relevant competencies recognised through the most expeditious assessment system and method.

Benchmarks for Assessment

The purpose of assessment is to confirm through evidence whether an individual can perform to the standards expected in the Gas Industry workplace, as expressed in the relevant endorsed competency standard unit.
The competency standard units in this Training Package are the benchmarks for assessment in the Gas Industry. They are the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).
The competency standard units in this Training Package include:

- National Gas Industry (UEG) Competency Standards, Version 1, 2006 and subsequent endorsed revisions.
- Imported competency standard units from other endorsed Training Packages that have been valued by the National Gas Industry Competency Advisory Council (NGICAC) for inclusion in Qualifications in this Training Package.

An index of the developed competency standard units is contained in Volume 1 Part 2.

Assessment Requirements of the Australian Quality Training Framework

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the AQTF 2010 Essential Standards for Registration.
The AQTF 2010 Essential Standards for Initial and Continuing Registration can be downloaded from http://www.training.com.au.
The following points summarise the assessment requirements.

Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering/Course Accrediting Body in accordance with the AQTF 2010. The RTO must have the specific competency standard units and/or AQF qualifications on its scope of registration.
The Registered Training Organisation is to be responsible for all aspects of assessment. The assessment must cover the critical aspects of evidence (assessment) detailed in each competency standard unit. In addressing these critical aspects, and ensuring reasonable consistency, the assessment is to ensure that:

- the individual satisfies the requirements in terms of underpinning/essential knowledge and associated skills so that their ability to transfer the competency to differing circumstances may reasonably be inferred
- the individual is competent to safely perform all the practical applications required.

The RTO is also responsible for the issue of formal recognition in the form of National Qualifications or Statements of Attainment and where regulatory requirements apply provide additional information so required, and enter, where applicable and preferred by industry relevant information into an individual Industry Skills Passport, or other industry approved instrument. The RTO will therefore:

- issue the National Qualification based on individuals having been assessed as competent for the qualification and all the competency standard units which constitute the qualification. (See Part 1 of this Training Package), and/or
- issue formal recognition (Statements of Attainment) in respect of individual or clusters of competency standard units for which candidates have been assessed and found competent, and/or
- where required for regulated or industry purposes, issue additional formal information as specified by the industry and relevant regulator.

Quality Training and Assessment

Each RTO must provide quality training and assessment across all its operations. See the AQTF 2010 Essential Standards for Initial and Continuing Registration, Standard 1.

Assessor Competency Requirements

Each person involved in training and assessment must be competent for the functions they perform. See the AQTF 2010 Essential Standards for Initial and Continuing Registration, Standard 1 for assessor (and trainer) competency requirements. See also the AQTF 2010 Users' Guide to the Essential Standards for Registration – Appendix 2.

Assessment Requirements

The RTOs assessments, including RPL, must meet the requirements of the relevant endorsed Training Package. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Assessment Strategies

Each RTO must have strategies for training and assessment that meet the requirements of the relevant Training Package or accredited course and are developed in consultation with industry stakeholders. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

National Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Access and Equity and Client Outcomes

Each RTO must adhere to the principles of access and equity and maximise outcomes for its clients. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Monitoring Assessments

Training and/or assessment provided on behalf of the RTO must be monitored to ensure that it is in accordance with all aspects of the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Recording Assessment Outcomes

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Issuing AQF qualifications and Statement of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the current AQF Implementation Handbook and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). See the AQTF and the edition of the AQF Implementation Handbook—available on the AQF Council website http://www.aqf.edu.au.

Licensing/Registration Requirements

Licensing and registration requirements that apply to specific industries, and vocational education and training, vary between each State and Territory, and can regularly change. The developers of this Training Package consider that the licensing/registration requirements described in this section apply to RTOs, assessors or candidates with respect to this Training Package. While reasonable care has been taken in its preparation, the developers of this Training Package and the Department cannot guarantee that the list is definitive or accurate at the time of reading; the information in this section is provided in good faith on that basis. Contact the relevant State or Territory Department(s) to check if the licensing/registration requirements described below still apply, and to check if there are any others with which you must comply. For further information contact:

Jurisdiction	Organisation	Website	Telephone Number
Australian Capital Territory	ACT Planning and Land Authority	www.actpla.act.gov.au	02 6207 1923
New South Wales	NSW Department of Trade &	http://www.dtiris.nsw.gov.au/	02 6391 3100

	Investment, Regional Infrastructure		
Northern Territory	NT WorkSafe	www.worksafe.nt.gov.au	1800 019 115
Queensland	Department of Mines and Energy	http://www.dme.qld.gov.au/Energy/gas.cfm	07 3237 1626
South Australia	Office of the Technical Regulator	http://www.sa.gov.au/government/entity/959	08 8226 5500
South Australia	Office of Consumer and Business Affairs	www.ocba.sa.gov.au	08 8204 9696
Tasmania	WorkCover Tasmania	www.workcover.tas.gov.au	1300 776 572
Tasmania	Workplace Standards Tasmania	http://www.wst.tas.gov.au/industries/gas	1300 135 513
Victoria	Energy Safe Victoria	www.esv.vic.gov.au	03 9203 9700
Western Australia	Department of Consumer and Employment Protection - Energy Safety	www.energysafety.wa.gov.au	08 9422 5282
Western Australia	Office of Energy	http://www.energy.wa.gov.au/2/3176/64/gas.pm	08 9420 5600

Licensing and/or registration requirements relevant to training, assessment and performance in the workplace of competencies in the Gas Industry Training Package are documented in the relevant units of competency at: 1.2) License to practice.

Licensing Line News

Licensing Line News is a Department of Education, Employment and Workplace Relations funded communication initiative to support the Council of Australian Governments (COAG) occupational licensing reform agenda. This website provides updated information on licensing and regulatory requirements. See: http://www.licensinglinenews.com/

Requirements for Assessors

In order to conduct assessment for statutory licensing or other industry registration requirements, assessors must meet the requirements of relevant authorities in the jurisdiction within which they are providing training and assessment. For further information contact the licensing/regulatory authorities listed above.

Mutual Recognition

Registered Training Organisations may contact EE-Oz Training Standards as the declared National Industry Skills Council for the ElectroComms and EnergyUtilities Industry, for assistance regarding mutual recognition.

Partnership Arrangements

RTOs must have, and comply with, written agreements with each organisation providing training and/or assessment on its behalf. See AQTF Standard 1.6 of the Standards for Registered Training Organisations.
RTOs operating in partnership with other organisations are responsible for the quality of the partnering organisation services and service outcomes. Under the AQTF, RTOs may through written agreement enter into partnerships with external and/or non-registered third party organisations, such as schools, industry organisations and enterprises, for delivery and assessment within the RTOs scope of registration.
External and/or non-registered third party organisations need not be Registered Training Organisations (RTOs). However, the agreement must specify how each party to the agreement will discharge its responsibilities for compliance with all aspects of the Standards for Registered Training Organisations.

Where the RTO establishes a partnership arrangement it must have a formal agreement with the organisation that provides the training and/or assessment services. The agreement must specify how all parties will discharge their responsibilities for ensuring the quality of the training and/or assessment conducted on its behalf, including the qualification requirements of those to be involved in delivery and assessment.
The RTO has full responsibility for the quality and outcomes of any training or assessment conducted on its behalf, and must maintain a register of all such agreements.

Recording Assessment Outcomes

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.
Statements of Attainment and qualifications issued under the AQF must comply with the relevant provisions in the current Australian Qualifications Framework Implementation Handbook and any other guides issued by the respective State Training Authorities, as well as any regulated requirements and those preferred by industry and advised within this Training Package.

Issuing AQF Qualifications and Statements of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the AQF Implementation Handbook and the endorsed Training Packages within the scope of its registration.
An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package, are met as well as a statement of results achieved of the specified Essential Knowledge and Associated Skills underpinning each competency standard unit. A Statement of Attainment is issued where the individual is assessed as competent against fewer competency standard unit(s) (along with the statement of essential knowledge and skills results) than required for an AQF qualification.
For this Training Package the RTO is responsible for the issuance of formal recognition in the form of national qualifications or statements of attainment. Where regulatory requirements apply and if required by the relevant regulatory authority the RTO should enter relevant information into the individual's industry Skills Passport or approved instrument. Where the industry prefers the use of an industry Skills Passport or industry approved instrument this may be negotiated directly with RTOs.
Where regulated requirements advise the use of training support material(s) and it is used to provide the Essential Knowledge and Skills specified in the competency standard unit, then, details of the support material(s) and their achievement should form part of the statement of results attached to the qualification or statement of attainment.

Requirements for Assessors

In order to conduct assessment for statutory licensing or other industry registration requirements assessors must meet the requirements established by regulatory agencies and respective nominees, in addition to the AQTF requirements. Assessors are to liaise with respective agencies to ensure respective requirements are followed and met.

Requirements for RTOs

Selected competency standard units and qualifications in this Training Package provide the basis for a range of statutory licensing and industry registration arrangements. To satisfy these licensing and registration arrangements, RTOs are to keep abreast of developments and any additional requirements detailed by such bodies and their respective nominees. RTOs and their assessors are therefore required to liaise with the Training Package developer and respective agencies to ensure requirements are known and met.

Requirements for Candidates

Individuals being assessed under statutory licensing and industry registration systems may be required to comply with training and experience requirements additional to any minimum requirements identified in this Training Package. These additional requirements are to be formally communicated by the RTOs to individuals prior to the delivery of the Training Package outcomes.

Pathways

The competencies in this Training Package may be attained in a number of ways including through:

- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, or a recognition pathway, or a combination of the two as illustrated in the following diagram.

Each of these assessment pathways leads to full recognition of competencies held – the critical issue is that the candidate is competent, not how the competency was acquired. Assessment, by any pathway, must comply with the assessment requirements set out in the Standards for Registered Training Organisations.

Learning and Assessment Pathways

Usually, learning and assessment are integrated, with evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process.
Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.
Learning and assessment pathways to suit Australian Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

New Entrants

Learning and assessment for new entrants is integrated and in part structured, with assessment evidence being collected progressively and feedback being provided to the candidate any time throughout the competency development learning and assessment process. Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be group-based, work-based, project-based, self paced, action learning-based; conducted by distance or e-learning; and involve practice and experience in the workplace.
Learning and assessment pathways that suit New Apprenticeships are a mix of formal training and workplace experience. They may be structured but need to take into account:

- typical irregular work activity
- work availability as it affects access to the range of activities required to be covered
- structured formative assessment activities through which candidates can acquire and demonstrate the practical skills and knowledge identified in the relevant competency standards.

The model that best accommodates a learner who has had no prior experiences (new entrant) in the industry is one that recognises that learning occurs/is facilitated best in directed workplace learning activities followed by recurring practice of these activities in a structured educational program. That is, the model is based on a combination of on-the-job and off-the-job learning experiences aligned to competency standard unit requirements. It recognises that learning occurs in an active way and should involve appropriate learning strategies. The model provides coherence and integration between respective components. It also represents:

- a most effective and efficient means of effecting quality education and training
- a means of assessing if learning has occurred and competence has been attained.

Competency standard units are specifications of work performance which do not provide specific information about the provision of training or detail as to how assessment activities are to be carried out. Given the nature of the information (content and its interrelationship) contained within the competency standard units there is the potential for a variety of interpretations to occur when RTOs are designing training programs.
To improve opportunities for consistency in interpretation, the industry's preferred approach is to support the use of appropriate learning and assessment strategies. To this end it has developed a Guideline Training and Assessment Model detailing the preferred approach. A copy of the model is available from EE-Oz Training Standards.

Recognition of Prior Learning Pathway

Recognition of Prior Learning (RPL) is an assessment process which determines the credit outcomes of an individual application for credit.
The availability of Recognition of Prior Learning (RPL) provides all potential learners with access to credit opportunities.
The recognition of prior learning pathway is appropriate for candidates who have previously attained skills and knowledge and who, when enrolling in qualifications, seek to shorten the duration of their training and either continue or commence working. This may include the following groups of people:

- existing workers;
- individuals with overseas qualifications;
- recent migrants with established work histories;
- people returning to the workplace; and
- people with disabilities or injuries requiring a change in career.

As with all assessment, RPL assessment should be undertaken by academic or teaching staff with expertise in the subject, content of skills area, as well as knowledge of and expertise in RPL assessment policies and procedures.
Assessment methods used for RPL should provide a range of ways for individuals to demonstrate that they have met the required outcomes and can be granted credit. These might include:

- questioning (oral or written)
- consideration of a portfolio and review of contents
- consideration of third party reports and/or other documentation such as documentation such as articles, reports, project material, papers, testimonials or other products prepared by the RPL applicant that relate to the learning outcomes of the relevant qualification component
- mapping of learning outcomes from prior formal or non-formal learning to the relevant qualification components
- observation of performance, and
- participation in structured assessment activities the individual would normally be required to undertake if they were enrolled in the qualification component/s.

In a Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of the AQTF must be met.

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed unit of competency. This evidence may take a variety of forms and might include certification, references from past employers, testimonials from clients, work samples and/or observation of the candidate. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence of prior learning is:

- authentic (the candidate's own work);
- valid (directly related to the current version of the relevant endorsed unit of competency);
- reliable (shows that the candidate consistently meets the endorsed unit of competency);
- current (reflects the candidate's current capacity to perform the aspect of the work covered by the endorsed unit of competency); and
- sufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).

Credit Transfer

Credit is the value assigned for the recognition of equivalence in content between different types of learning and/or qualifications which reduces the volume of learning required to achieve a qualification.

Credit arrangements must be offered by all RTOs that offer Training Package qualifications. Each RTO must have a systematic institutional approach with clear, accessible and transparent policies and procedures.

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were acquired, provided that the learning is relevant to the unit of competency outcomes.

Combination of Pathways

Credit may be awarded on the basis of a combination of credit transfer plus an individual RPL assessment for additional learning. Once credit has been awarded on the basis of RPL, subsequent credit transfer based on these learning outcomes should not include revisiting the RPL assessment but should be based on credit transfer or articulation or other arrangements between providers.

Where candidates have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of approaches may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competence using an 'assessment only pathway'. Once current competence is identified, a structured training and assessment program may be established to ensure that the candidate acquires the required additional competencies or gap. These would be achieved through a 'training and assessment pathway'.

1.3.03 Learning and Assessment pathways

3.3 Learning and Assessment pathways

Within the general Training Package Pathways continuum framework, referred to in the previous section, three distinct Assessment Pathways have been identified for use within the Gas Industry.

Pathway 1: New entrant competency development

Pathway 2: Recognition of currently held competencies or prior learning and workplace experience

Pathway 3: Recognition of other currently held competencies (other industry standards)

Although not exclusive, the three pathways provide typical recognition processes for individual competency standard units or groups of units that make up Qualifications or Statements of Attainment. From an industry perspective, assessment is to lead to formal recognition of the Industry's benchmark competencies or formal recognition of competencies from other industries. Formal recognition may be for individual competencies or for groups of competencies, which may also be combined to satisfy the requirements of a National Qualification.

Pathway 1: New Entrant Competency Development

This pathway is for individuals who are undertaking an industry-preferred competency development plan. The users of this pathway may be:

- contracted employment based employees who are generally new apprentices and who undertake an approved training program that supports a competency development plan, **or**
- those that undertake an approved structured training program in an institutional environment to achieve competency outcomes.

Evidence of Competency
In this pathway evidence required to determine competence for the issuance of the qualification or Statement of Attainment is to be in accordance with **3.5 Assessment within the Gas Industry** contained herein. The evidence however, must be sufficient in quality, quantity and type and be gathered in an on-going way and in a timely and accurate manner from several sources, such as workplace and educational experiences based on the approved industry training program and related competency development plan in which individuals are involved.

Pathway 2: Recognition of Prior Learning/Current Competencies (RPL/RCC)

This pathway is for those who may have acquired skills and knowledge in relevant competency standard units outside formally recognised processes. The users of this pathway will include applicants from overseas and also applicants who have developed skills in allied industries but who have no formal recognition in respect of industry standards or qualifications. In using this pathway RTOs should also identify if any equivalence mapping document exists as per Pathway 3.

Additionally, an existing national mechanism for the recognition as a tradesperson exists through the *Tradesmens' Rights Regulation Act*, which is administered by Trades Recognition Australia (TRA), part of the Commonwealth Department of Industrial Relations. TRA grants recognition for the purposes of migration but further analysis of the applicant's knowledge and skills is often needed before competency can be attributed.

The Trades Recognition Australia process mainly operates to provide formal recognition of the knowledge and skills migrants have developed through structured training and/or work experience in overseas countries. It is also an important mechanism for the assessment and recognition of the competencies of people who may not have had access to the industry-preferred new entrant model of competency development for trade vocations in Australia. For more information visit:
http://www.workplace.gov.au/workplace/Category/SchemesInitiatives/TRA/TRA-TradeClassificationsAssessed.htm

Evidence of Competency

In this pathway many types of evidence can be used to determine competency for the issuance of Qualifications or Statements of Attainment. The evidence may come from records of previous relevant work experience. This type of evidence will need endorsement by a supervisor/mentor skilled in the units for which recognition is sought. Evidence may consist of portfolios, which include projects or products completed for other purposes or from non-registered training programs or ad hoc prior experience or from overseas programs of a similar nature.

Industry would expect this evidence to be assessed by the Registered Organisation (or their nominee – a qualified industry assessor) and a judgement made. The result will be either that the applicant is judged competent for the competency standard unit(s) or gaps are identified and noted.

Where a gap is identified the applicant can either accept the judgement, pursue gap training or elect to appeal the decision. Evidence used in the judgement process may come from a variety of sources including a personal portfolio, curriculum vitae, interview, and comments by peers or employers and challenge tests.

The recognition of a subset of the competency standard units — skills, forming a cluster of Statements of Attainment within a Qualification — would generally require individuals to complete the additional units in order to attain the relevant Qualification Pathway that provides credit. This information may be developed by the Registered Training Organisation in consultation with respective stakeholders.

Pathway 3: Recognition of Other Industry/Enterprise Standards

This pathway is for individuals who have developed skills based on other nationally recognised industry or enterprise competency standards and who have received formal recognition in competency standards unit(s) from these areas. Recognition of equivalence of competency standard units between industries is through an agreed and formal mapping process. Equivalence of outcomes are declared by Industry Skills Councils for respective Training Packages. The recognition of Units, as part of any mapping arrangements is the responsibility of the parties who maintain the competency standards; in this instance EE-Oz Training Standards. RTOs should investigate whether there are any existing mapping agreements by contacting the relevant Industry Skills Councils.

Evidence of Competency

In this pathway, evidence will be based on formally-agreed mapping declaration(s) of competency standards unit(s) from other Industry Competency Standards against the unit(s) in the Gas Industry Training Package for which formal recognition is sought. The equivalence mapping declaration agreement would be formalised between Industry Skills Councils.

The applicant would be required to supply details of the unit(s) held including any currency, and the unit(s) sought in consultation with the RTO, including submitting any assessment reports to the RTO for a determination. This equivalence evidence will be reviewed against the mapping advice obtained by the RTO (or their nominee) and a judgement made. The result will be either that the applicant is deemed competent for the unit(s) and a Statement of Attainment issued, or gaps are identified and noted. Where a gap has been identified the applicant can consider the judgement, pursue gap training or appeal the decision. Evidence used in the judgement process is based on the individual's records of achievement relative to the competency standard units for which recognition is sought.

1.3.04 Assessment Principles within the Gas Industry

3.4 Assessment Principles within the Gas Industry

All assessments carried out by RTOs are required to demonstrate compliance with the principles of assessment:

- validity
- reliability
- flexibility
- fairness
- sufficiency

These principles must be addressed in the:

- design, establishment and management of the assessment system for this Training Package
- development of assessment tools, and
- the conduct of assessment.

Assessment Principles

Validity

Assessment is valid when the process is sound and assesses what it claims to assess.
Validity requires that:

a. assessment against the units of competency must cover the broad range of skills and knowledge that are essential to competent performance
b. assessment of knowledge and skills must be integrated with their practical application
c. judgement of competence must be based on sufficient evidence (that is, evidence gathered on a number of occasions and in a range of contexts using different assessment methods). The specific evidence requirements of each unit of competency provide advice on sufficiency

The assessment instruments and tasks must be designed, implemented and administered in a manner which ensures they measure the intended Essential Knowledge and Associated Skills with workplace performance requirement, and the evidence gathered relates directly to the competency standard unit(s) being assessed.
Validity includes the need to involve others with expertise in the assessments being implemented in the development, selection and review of the instruments and methods used in the assessment process.
To be valid the assessment judgements need to be based on more than one task with evidence gathered on a number of occasions and in a variety of contexts or situations.

Reliability

Reliability refers to the degree to which evidence presented for assessment is consistently interpreted and results in consistent assessment outcomes. Reliability requires the assessor to have the required competencies in assessment and relevant vocational competencies (or to assess in conjunction with someone who has the vocational competencies). It can only be achieved when assessors share a common interpretation of the assessment requirements of the unit(s) being assessed.

RTOs will ensure clear guidelines are available to assessors to ensure consistent judgements are made based on the evidence provided. Where industry and/or regulatory-endorsed training support materials are available, it is recommended that this material is used to support and increase the reliability of assessment. This approach will assist in establishing and maintaining consistency of performance of the essential knowledge and skills and work performance requirements specified in the competency standard units.

Flexibility

To be flexible, assessment should reflect the candidate's needs; provide for recognition of competencies no matter how, where or when they have been acquired; draw on a range of methods appropriate to the context, competency and the candidate; and support continuous competency development.
The assessment approach should be developed to meet the needs of potential candidates and where appropriate negotiated between the candidate and assessor.
Assessments are to cover both the skill and knowledge components of competency as described in the competency standard units without any one-assessment method being prescribed.
A range of assessment instruments and items should be made available and, where appropriate, the time and place of assessment should be determined to suit the availability of resources, assessors and candidates. However, where supported by the Industry for the purposes of enhancing consistency, the preferred assessment arrangements should be adopted and used.

Fairness

Fairness in assessment requires consideration of the individual candidate's needs and characteristics, and any reasonable adjustments that need to be applied to take account of them. It requires clear communication between the assessor and the candidate to ensure that the candidate is fully informed about, understands and is able to participate in, the assessment process, and agrees that the process is appropriate. It also includes an opportunity for the person being assessed to challenge the result of the assessment and to be reassessed if necessary.
Assessment methods and practices shall be equitable to all individuals.
Candidates will be made aware of the assessment methods and procedures together with details of the criteria against which they are to be assessed.
Specific needs of individual candidates will be accommodated as is practicable and reasonable adjustment is made while maintaining the integrity of the assessment outcomes based on the competency standard unit(s) being assessed.

Sufficiency

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency. Sufficiency is also one of the rules of evidence.
In all instances competency is to be attributed on evidence sufficient to show that a person has the necessary skills required for the scope of work. This includes:

- Task skills — performing individual tasks
- Task management skills — managing a number of different tasks

- Contingency management skills — responding to irregularities and breakdowns in routines, and
- Job/role environment skills — dealing with the responsibilities and expectations of the work environment including working with others.

Evidence must demonstrate that an individual can perform competently across the specified range of activities and has the essential knowledge, understanding and associated skills underpinning competency.

Currency

The principle to be applied in the Gas Industry for currency of evidence is that claims are to be fully substantiated through both direct and supporting assessment processes.
Assessment processes must satisfy the requirement for currency in terms of:

- technology and/or processes
- recency of application

Rules of Evidence

The rules of evidence guide the collection of evidence that address the principles of validity and reliability, guiding the collection of evidence to ensure that it is valid, sufficient, current and authentic.

Valid

Valid evidence must relate directly to the requirements of the unit of competency. In ensuring evidence is valid, assessors must ensure that the evidence collected supports demonstration of the outcomes and performance requirements of the unit of competency together with the knowledge and skills necessary for competent performance. Valid evidence must encapsulate the breadth and depth of the unit of competency, which will necessitate using a number of different assessment methods.

Sufficient

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency.

Current

In assessment, currency relates to the age of the evidence presented by a candidate to demonstrate that they are still competent. Competency requires demonstration of current performance, so the evidence collected must be from either the present or the very recent past.

Authentic

To accept evidence as authentic, an assessor must be assured that the evidence presented for assessment is the candidate's own work.

Sufficiency of Evidence

In all instances competency is to be attributed on evidence sufficient to show that a person has the necessary skills required for the scope of work. This includes:

- Task skills — performing individual tasks
- Task management skills — managing a number of different tasks
- Contingency management skills — responding to irregularities and breakdowns in routines, and
- Job/role environment skills — dealing with the responsibilities and expectations of the work environment including working with others.

Evidence must demonstrate that an individual can perform competently across the specified range of activities and has the essential knowledge, understanding and associated skills underpinning competency.

Currency of Evidence

Evidence must be relevant to what is outlined in competency standard units and not outdated or irrelevant.
Note: The deeming of competence at a point in time does not mean that competence exists for all time; competency must be maintained by use and/or retraining. Also refer to Section 3.9 Guide to Assessment Methods and Items for more detailed information on currency.
The principle to be applied in the Gas Industry for currency of evidence is that claims are to be fully substantiated through both direct and supporting assessment processes.
Additionally, assessment processes must satisfy the requirement for currency in relation to evidence of competency in terms of technology and/or processes and recency of application. If there has been a recent change in technology, then evidence of actions before such change is unlikely to reflect the required currency. Similarly, if the individual claiming competency has not performed/applied that competency for extensive periods of time then documentary evidence would not suffice as a basis of assessment.

Authenticity

Evidence is to be genuine and relate to the person being assessed, and no one else.
By way of supporting and reinforcing both the concept of competency and the competency standard units as the currency for the Vocational Education and Training (VET) system, the Gas Industry embraces the following tenets:

- Assessment (summative or final) is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment.
- Simulation must be in accord with any prevailing industry policy. It is recognised that in some circumstances, assessment may occur outside the workplace, however this should only occur where necessary and in accord with any industry policy. In relation to this Training Package the Industry Skills Council for ElectroComms and EnergyUtilities, EE-Oz Training Standards, have developed an industry Simulation Policy. This can be accessed from the EE-Oz Training Standards website at: www.ee-oz.com.au.
- All persons may claim formal recognition for an assessment of an individual competency standard unit or a group of units.
- All persons have the right to have relevant competencies recognised through the most expeditious assessment system and method.

- Under-represented groups are not biased from participation and access.

Regulatory/Context of Assessment

Competency is to be determined on evidence of having consistently performed across a representative range of specified equipment, processes and activities for the scope of work and/or endorsement for which competency is being sought; autonomously and to requirements. Equivalent evidence from other sources, eg formal assessment is also acceptable.

With respect to the essential knowledge and associated skills component of each competency standard unit, assessment activities shall be in accordance with the approach required by the regulatory environment. This may include the use of industry-supported essential knowledge and associated skills learning specifications structured in a conducive learning environment to facilitate the development of depth and breadth of learning, aid in retention and enhance transferability. For this component where graded assessment is a regulatory requirement, it will apply to the underpinning knowledge off-the-job component and not the competency standard unit as a whole. The Industry preference is for a percentile based graded assessment system to be used. Also, although it is preferred that assessing competency be carried out in the workplace, it can be undertaken in a simulated work environment approved for that purpose by the industry. Refer to any Industry policy that may apply in this regard.

Assessment Judgments

Attributing Competency

The deeming of competency shall be based on evidence that is sufficient, current and authentic, so that a quality low risk judgment can be made based on the assessment principles outlined herein.

Competencies shall be attributed on evidence showing that the person deemed to be competent is able to undertake the responsibilities for all safety measures, care of technology, plant and equipment, use of standards, manuals and procedures, and care of the environment, directly related to the work function for which such competencies are required.

Note:

a. Where the consequences of unjustifiably or mistakenly deeming a person competent carries a risk of injury to persons, commerce, or damage to property and/or the environment, the level of evidence required for sufficiency is higher than where there is little risk. The risk of attributing competence to an individual should, therefore, form a critical part of the assessment process and methodology. Consideration should be given as to whether all pre-requisites and/or corequisites have been appropriately achieved.
b. The decision to attribute competence differs from training effort and delivery. The decision to attribute competence is based on evidence being present for an assessor to attribute such and not a person in learning. Learners, however, can undertake training in competency standard units without being awarded the competency standard units even when they may not have acquired in the required sequence any of the prerequisite competency standard units. However, they cannot be attributed the competency standard unit until they have acquired the prerequisite.
c. For more detailed information refer to Section 3.9 Guide to Assessment Methods and Items.

d.

1.3.05 Assessment Processes within the Gas Industry

3.5 Assessment Processes within the Gas Industry

Within the Gas Industry sampling, profiling and portfolio are recognised as the three main methods of collecting evidence to assist the assessment processes and, while they are not mandatory, they have become accepted and the preferred industry practice. It is not the purpose of these Guidelines to provide an extensive technical description of each of these methods; however, it is important to recognise the impact each will have on the management of assessment practices. Profiling, however, is the Industry-preferred model for new entrant contracted entry-level employment, eg apprenticeships. Therefore, an overview of each is provided in this Guideline along with sample templates to assist Registered Training Organisations (RTOs) in planning, managing and administering training and assessment delivery.

1. Sampling

Sampling requires evidence of competence to be derived from a limited sample of performance event(s). Technical/application skills are normally assessed by practical measures, and knowledge underpinning performance is assessed, typically in conducive learning environments like classrooms, by conventional written or oral questioning.

2. Profiling

Profiling requires the progressive collection of many samples through structured documentation and progress summative reporting. Progressive monitoring of direct and possibly indirect evidence, over an extended period of time is used to assist in intervention and, making judgements about the developing competency profile of the candidate/learner. The focus of evidence collection is set against the Elements; Range Statement; and critical aspects detailed in the competency standard units and complemented with the level of supervision applied. The evidence collection process is staged against known and predefined work performance outcomes as specified in the Competency standard units. Profiling will assist in obtaining a series of periodical audit assessments and/or a final holistic assessment event where regulatory/licensing requirements apply. Profiling is the preferred industry model that assists with assessment for entry-level contracted employment. Technical educational achievements may be incorporated in the Profiling Model or augment information gathered directly from the workplace into the profile. In the latter case it is preferred that a final summative and holistic assessment event be applied prior to the issuance of the qualification or relevant Statement of Attainment.

3. Portfolio

The Portfolio approach is best suited to assessment conducted as Recognition of Prior Learning (RPL) and is to be in accord with AQTF Standard 8.2 or its replacement/equivalent. It requires the collection or build-up of indirect evidence of an individual's competence. The Portfolio of evidence could include Statements of Attainment issued by other RTOs (Mutual Recognition AQTF Standard 5), suitably focused references and testimonials, formal project appraisals, work records and any other evidence which is current and relevant to the competencies sought.

Opportunities for Combined Approaches

The assessment processes described above are not mutually exclusive and a combination of approaches may be implemented. The process selected will be acceptable to the industry if the outcome is valid, the approach supports industry-wide consistency, the requirements of the Competency standard units are satisfied and in accordance with the preferred industry approach and costs are acceptable to the industry.

1.3.06 Assessor Requirements

3.6 Assessor Requirements

This section identifies the specific requirements on the vocational competence and experience for assessors, to ensure that they meet the needs of industry and their obligations under AQTF, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.
The integrity of the Gas Industry assessment processes is centred on the need for all assessments to be conducted under the direction or the authority of a Registered Training Organisation using qualified assessors who may function with or within the Registered Training Organisation.
Within an assessment process, responsibility for some activities may be delegated and it is therefore not necessary that every aspect of assessment must be personally and directly attended to by a qualified assessor. For example, in a long term profiling process the qualified assessor may establish with an approved industry data gathering administrator/manager the system and identify the evidence required. They may then cause the evidence to be gathered by others after which they will examine the evidence and make judgments.
The partnership between assessors and other competent persons is essential if the information is to be qualitative. It should be noted that technical assessment responsibility and systems accountability may only be exercised by a Registered Training Organisation using qualified assessors.

Assessor Qualifications

Assessments against the competencies in this Training Package will be carried out in accordance with these endorsed guidelines. The guidelines include the necessary qualifications for those conducting assessments and provide for those situations where more than one person may contribute to the assessment and where the required technical and assessment competencies may not be held by any one person.

The Assessment for Competency

Assessors are to be competent in the competencies which they are to assess or are to be assisted by an appropriate subject matter expert who is currently competent in the unit being assessed. This may also include such things as language literacy and numeracy (LLN), cultural diversity and under-represented groups, environmental, industrial, occupational health and safety (OHS).
Assessors (and their subject matter expert) are to know current industry practices for the job or the role against which the performance is being assessed, and practice the necessary interpersonal skills required in the assessment process.
All persons required to plan, assess, develop or validate assessment-related matters are to be currently competent and comply with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b)] .

Using Qualified Assessors

All assessment is to be under the authority of a formally qualified assessor. Within this constraint, the Registered Training Organisation may adopt any or all of the following processes:

- using a workplace assessor who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) and the relevant industry vocational competencies
- using a workplace assessor who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) and who has ready access to another person who is competent in, and can advise the assessor on, the relevant vocational competencies to at least the level being assessed
- using an assessment panel which includes at least one person who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) as well as at least one person who is competent in the relevant vocational competencies to at least the level being assessed
- using an external assessor who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) but with the assessment evidence being collected, utilising industry endorsed assessment procedures, by a workplace supervisor who has the relevant vocational competencies to at least the level being assessed
- using a workplace supervisor, with the relevant vocational competencies to at least the level being assessed, who utilises industry endorsed assessment procedures with the outcome being validated by an externally qualified assessor who is currently competent against the assessor standards and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b).

Notwithstanding, the industry would expect, in relation to the new entrant pathway, that in all instances the Registered Training Organisation will retain the responsibility of managing the competency development training program and related plan, the ultimate attributing of competence against Competency standard units using qualified assessors, and the issuing of qualifications, and/or Statements of Attainment. It will also include any additional information that may be required for licensing requirements and specified by regulators or Industry.
The process should be undertaken in accordance with the recognition processes defined by relevant training authorities.

Assessor Competencies

The AQTF specifies mandatory competency requirements for assessors. For information, Element 1.4 from the AQTF 2007 Essential Standards for Registration follows:

1.4 Training and assessment are conducted by trainers and assessors who:

- have the necessary training and assessment competencies as determined by the National Quality Council or its successors, and
- have the relevant vocational competencies at least to the level being delivered or assessed, and
- can demonstrate current industry skills directly relevant to the training/assessment being undertaken, and
- continue to develop their Vocational Education and Training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence.

* See AQTF 2010 Users' Guide to the Essential Standards for Registration – Appendix 2

All assessors who are engaged in assessing against this Training Package must be engaged by an RTO or be acting under the registration of an RTO (for example, an assessor working in an enterprise, or a consultant that has a partnership arrangement with the RTO).
This Training Package provides a range of options for meeting these assessor requirements. Assessments can be undertaken in a variety of workplace and enterprise contexts by individual assessors, partnerships involving assessors and technical experts or teams of assessors.
The options below show how the requirement to use qualified assessors can be met.

Assessors, Technical Experts and Workplace Supervisors

Single Assessor — Single Arrangement

Where an individual assessor conducts the assessment the assessor is required to:

- hold formal recognition of competence in the relevant units in the Training Package for Training and Assessment
- be deemed competent and, where possible, hold formal recognition of competence in the specific Competency standard units in this Training Package, at least to the level being assessed.

In addition, it is recommended by the industry that the assessor can:

- demonstrate current knowledge of the Gas Industry, industry practices, and the job or role against which performance is being assessed
- demonstrate current knowledge and skill in assessing against this Training Package which contains the vocational standards for industry in a range of contexts
- demonstrate the necessary interpersonal and communication skills required in the assessment process
- continue to meet the requirements of the industry
- ensure assessment is consistent with the Australian Quality Training Framework Standards for Registered Training Organisations
- promote confidence in the system and the assessment outcomes on the part of industry, employers, enterprises, unions, employees, trainees, assessors and trainers
- ensure assessment processes and outcomes are valid, reliable, fair and flexible

- support RTOs in effectively carrying out their responsibilities
- participate in professional development
- have relevant work experience
- participate in professional/industry networks and assessor programs
- have recent planning and review of assessment activities
- participate in assessment validation processes
- have recent assessment and/or workplace training activities.

Partnership Arrangement

Option 1 — Working with a Technical Expert

An assessor works with a technical expert to conduct the assessment. The Assessor is required to hold formal recognition of competence in the relevant units in the Training Package for Training and Assessment.
In addition, it is recommended that the assessor is able to:

- demonstrate current knowledge and skill in assessing against this Training Package which contains the vocational standards for industry in a range of contexts;
- demonstrate capability to assess with a technical expert;
- demonstrate the interpersonal and communication skills required in the assessment process.

A technical expert is one that is required to be deemed currently competent and, where possible, hold formal recognition of competence in the specific Competency Standard Units from this Training Package which contains the vocational standards for industry, at least to the level being assessed.
In addition, it is recommended that the Technical Expert is able to:

- demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed;
- communicate and liaise with the assessor throughout the assessment process.

Option 2 — Working with a Workplace Supervisor

An assessor works with workplace supervisor in collecting evidence for valid assessment. The assessor is required to:

- make the assessment decision
- demonstrate a capability to assess using a workplace supervisor as a valid and reliable source of evidence collaboration
- communicate and liaise, where appropriate, with the workplace supervisor throughout the assessment process.

A workplace supervisor is required to be deemed currently competent and, where possible, is to hold formal recognition of competence in the specific competency standard units from this Training Package at least to the level being assessed.
In addition, it is recommended that the workplace supervisor is able to:

- demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed
- communicate and liaise, where appropriate, with the assessor throughout the assessment process

- use agreed practices to gather and record evidence for the assessor to use in making a valid judgement on competency.

Assessment Team/Panel

A team works together to conduct the assessment.
Members of an assessment team or panel that comprises assessment and industry experience and expertise works together in the collection of evidence and in making judgements about competency. The members of the team must include at least one person who:

- holds formal recognition of competence in training and assessment in the relevant units in the Training and Assessment Training Package
- is deemed competent and, where possible, holds formal recognition of competence in the specific Competency standard units from this Training Package at least to the level being assessed, and where not technically competent uses team/panel members with current technical competence in requisite units.

It is recommended that members of the team/panel involved in the assessment are able to demonstrate:

- current knowledge of the industry, industry practices, and the job or role against which performance is being assessed
- current knowledge and skill in assessing against this Training Package in a range of contexts
- the interpersonal and communication skills required in the assessment process and liaise with other team/panel members throughout the assessment process.

Assessments against the competencies in the Training Package will be carried out in accordance with these endorsed guidelines. The guidelines include the necessary qualifications for those conducting assessments and provide for those situations where more than one person may contribute to the assessment and where the required technical and assessment competencies may not be held by any one person.

1.3.07 Assessment Tools

3.7 Designing Assessment Tools

This section provides an overview of assessment tools and their suggested use in the industry.

Use of Assessment Tools

Assessment resources provide a means of collecting the evidence that assessors use in making judgements about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment materials, such as those specifically developed to support this Training Package — Training and Assessment Advice Manual for the Gas Industry Training Package UEG06, available from EE-Oz Training Standards (www.ee-oz.com.au). Alternatively they may develop their own assessment materials to meet the needs of their clients by utilising pre-developed training and assessment instruments included in Section 3.8 Gas Industry Guidelines for designing assessment materials.

Using Prepared Assessment Tools

If using prepared assessment materials, assessors should ensure that the materials are benchmarked or mapped against the current version of the relevant competency standard unit(s) and any industry-preferred model and supported by the industry. This can be done by checking that the materials are listed on the National Training Information Service (http://www.ntis.gov.au) or EE-Oz Training Standards (www.ee-oz.com.au). Specific materials on the list have been noted by the National Quality Council (NQC) as meeting their quality criteria for Training Packages.

Developing Assessment Tools

When developing their own assessment materials, assessors must ensure that the tools:

- are benchmarked against the selected competency standard unit(s)
- are benchmarked against the industry-preferred competency assessment model
- are reviewed as part of the validation of assessment strategies as required under AQTF Standard 9.2 i of the Standards for Registered Training Organisations
- meet the assessment requirements expressed in the AQTF 2010 Essential Standards for Initial and Continuing Registration.
- A key reference for assessors developing assessment tools is TAE10 Training and Education Training Package.

Language, Literacy and Numeracy

The design of assessment tools must reflect the language, literacy and numeracy competencies required for the performance of a task in the workplace and not exceed these expectations. Guidance on the appropriate level of LL&N skills to best equip the candidate for successful achievement is provided within each unit of competency at section 2.2) Literacy and numeracy skills.

Conducting Assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

Mandatory Assessment Requirements

Assessments must meet the criteria set out in the AQTF 2010 Essential Standards for Initial and Continuing Registration. For information, the mandatory assessment requirements from Standard 1 from the AQTF 2010 Essential Standards for Initial and Continuing Registration are as follows:

1.5 Assessment, including Recognition of Prior Learning (RPL):

- meets the requirements of the relevant Training Package or accredited course
- is conducted in accordance with the principles of assessment and the rules of evidence
- meets workplace and, where relevant, regulatory requirements
- is systematically validated.

Assessment of Employability Skills

Employability Skills are integral to workplace competency. As such, they must be considered in the design, customisation, delivery and assessment of vocational education and training programs in an integrated and holistic way, as represented diagrammatically below.

Employability Skills are embedded and explicit within each unit of competency. Training providers must use Employability Skills information in order to design valid and reliable training and assessment strategies. This analysis could include:

- reviewing units of competency to locate relevant Employability Skills and determine how they are applied within the unit
- analysing the Employability Skills Summary for the qualification in which the unit or units are packaged to help clarify relevant industry and workplace contexts and the application of Employability Skills at that qualification outcome
- designing training and assessment to address Employability Skills requirements.

The National Quality Council has endorsed a model for assessing and reporting Employability Skills, which contains further suggestions about good practice strategies in teaching, assessing, learning and reporting Employability Skills. The model is available from http://www.training.com.au/
The endorsed approach includes learners downloading qualification specific Employability Skills Summaries for Training Package qualifications from an online repository at http://employabilityskills.training.com.au
For more information on Employability Skills in this UEG06 Gas Training Package, Version 2, go to the EE-Oz Training Standards website at www.ee-oz.com.au

Access and Equity

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package: training and assessment must be bias free.
Under the rules for their development, Training Packages must reflect and cater for the increasing diversity of Australia's VET clients and Australia's current and future workforce. The flexibilities offered by Training Packages should enhance opportunities and potential outcomes for all people so that we can all benefit from a wider national skills base and a shared contribution to Australia's economic development and social and cultural life.

Reasonable adjustments

It is important that education providers take meaningful, transparent and reasonable steps to consult, consider and implement reasonable adjustments for students with disability.
Under the Disability Standards for Education 2005, education providers must make reasonable adjustments for people with disability to the maximum extent that those adjustments do not cause that provider unjustifiable hardship. While 'reasonable adjustment' and 'unjustifiable hardship' are different concepts and involve different considerations, they both seek to strike a balance between the interests of education providers and the interests of students with and without disability.
An adjustment is any measure or action that a student requires because of their disability, and which has the effect of assisting the student to access and participate in education and training on the same basis as students without a disability. An adjustment is reasonable if it achieves this purpose while taking into account factors such as the nature of the student's disability, the views of the student, the potential effect of the adjustment on the student and others who might be affected, and the costs and benefits of making the adjustment.

An education provider is also entitled to maintain the academic integrity of a course or program and to consider the requirements or components that are inherent or essential to its nature when assessing whether an adjustment is reasonable. There may be more than one adjustment that is reasonable in a given set of circumstances; education providers are required to make adjustments that are reasonable and that do not cause them unjustifiable hardship. The Training Package Guidelines provides more information on reasonable adjustment, including examples of adjustments. Go to:
http://www.deewr.gov.au/tpdh/Pages/home.aspx

1.3.08 Guidelines for Designing Assessment Materials

3.8 Guidelines for Designing Assessment Materials

Assessment materials are developed, designed and implemented by appropriately authorised and competent assessors. Materials may range from relatively straight forward questions/answers and task tests to quite elaborate simulations for assessing concepts and values. Assessment materials need to facilitate assessment by:

- detailing the personnel and material preparations required to support the **assessment** process
- establishing and/or confirming the circumstances under which the assessment is to take place
- detailing the evidence to be collected and the method(s) to be used to do this
- providing for the systematic review/analysis of the evidence and for the making of logical and supportable judgments
- providing the means for the recording of the process and the judgments as required and in accordance with any regulatory and/or industry-preferred arrangement
- providing a basis for post-assessment
- providing **counselling** and guidance for the candidate
- identifying specialist technical advice related to such things as OHS, LLN, **environmental** and equity matters.

Assessment Material Design Process

a) Determine assessment requirements

Identify and select assessment tools/methods The assessor will be required to identify and select the assessment methods consistent with Gas Industry assessment guidelines and procedures.

In developing tools and methods the assessor will need to determine the range of methods appropriate to the assessment context and the characteristics of the person being assessed. The assessor may use the following questions when designing the assessment method:

1) Is the data **gathering** process sufficient, timely, valid and reliable to ensure the decision about competence relates to the overall requirements of the unit?
2) Do you always need to assess real work?
3) How is the **critical** evidence specified?
4) How many **assessment** tasks are required to collect the critical evidence of competency?
5) Which **assessment** tasks will provide broad coverage of the Range Statement?
6) Are there any skills that the candidate should have or can develop before they are assessed for the unit?

b) Develop assessment tools/methods

Design or modify assessment tools The assessor will be required to design or modify existing assessment tools so that their format, language, literacy and numeracy requirements are appropriate to the characteristics of the assessment context and the person being assessed.

Verify tools The assessor will need to verify the assessment tools, which maintain validity but are easy to administer and allow sufficient flexibility to meet the range of possible assessment contexts.

Prepare accompanying instructions The assessment system/process must be comprehensively and clearly documented so that the stages of assessment and their constituent parts may be observed and evaluated. The assessment materials must relate directly to the competency standard unit or group of units making up a qualification and address the totality of competency in a realistic, holistic and effective way.

c) Trial and review assessment tools

Trial and validate assessment tools

The assessor will be required to trial and validate the assessment methods with a representative group of people similar to those who will ultimately be assessed. Once trials are conducted the assessor will need to seek responses from all parties and compile and analyse these responses.

Evaluate assessment methods The assessor will evaluate the assessment methods and tools for clarity, reliability, validity, fairness and cost-effectiveness.

Make improvements The assessor will modify the assessment tools based on the responses to the trials.

Ratify procedures The assessor ratifies, with relevant people in the Gas Industry, procedures of the evidence requirements, assessment methods and assessment tools and the processes used in developing them.

Assessment Material Requirements

Essential requirements to be met by assessment materials include the following:

Assessment of Competency Standard Units — assessment must directly address the competency standard unit or group of units making up a qualification or skills cluster and, within this, satisfy the *critical aspects of evidence* including the related performance criteria, Range Statement and essential knowledge and associated skills.

Assessment of practical applications — summative assessment of practical applications should, whenever possible and practicable, be conducted in a real work environment or in a realistically simulated work environment. Removal of the summative assessment from the real work environment should occur only to the extent necessitated by circumstances such as safety, noise, excessive cost and disruption to equipment operation, and access to the required work.

Learning outcomes or other curricula documents — are not to be the primary focus of summative assessment unless their direct relationship to the competency standard unit(s) is formally approved by industry and recorded.

Assessment of essential theory — summative assessment of the theory (essential knowledge and associated skills) underpinning competent performance is to be sufficiently rigorous and searching to ensure that individuals comprehend why they are doing something, the options they may use to achieve the required goal, and the fact that they can recall and/or locate and, interpret and transfer this information in varying contexts if it is needed at some other time. Typically, the specific level of depth and breadth the individual is required achieve is contained in industry and RTO sponsored essential knowledge and associated skills learning specifications that are aligned to respective competency standard units.

Assessment of learners with low language/literacy/numeracy skills/under-represented groups — assessment systems need to be capable of being applied in cases of low language/literacy/numeracy skills/under-represented groups. Reasonable adjustment strategies to address assessment of those with low language, literacy and numeracy skills and under-represented groups should be included in any Assessment Materials used by Registered Training Organisations, and be consistent with the quality assurance requirements of State Training Authorities for registration.

Range of Assessment Methods and their Uses

Types of Assessment

A variety of assessment types apply and can be used individually or in combination. These are:

Direct observation Observe the learner carrying out their usual practical tasks in the workplace. This may be accompanied by questions. Direct observation is probably the easiest and most convenient method of assessment.

Third party reports Information provided by the immediate supervisory or other appropriate persons. An external assessor may not have the opportunity to make multiple observations of a candidate over a period of time, unlike an internal (in-house) assessor. The external assessor may obtain third party reports to supplement an assessment.

Demonstration and questioning The candidate gives a demonstration of a practical task. If there is no opportunity to observe this competency in the standard work environment, the assessor may ask the candidate to provide a practical demonstration. The assessor can see both the process and the finished product.

Pen and paper tests and essays These are used to measure the extent of knowledge or may test problem-solving capability. They can compliment practical demonstration.

Oral tests These can be an adjunct to practical demonstration.
Projects — these tend to be unsupervised. The assessor uses the final product as a basis for judgement.
Simulation This may involve an off-site practical test. The actual tasks and conditions are similar to real life situations and are in accord with prevailing industry policy enunciated by the Industry Skills Council for the industry. A Simulation Policy has been developed and can be obtained at www.ee-oz.com.
Portfolios These are used for assessing skills achieved in the past. They can include work samples.
Profiling Information gathered over time from a structured profiled data entry card and resultant report.

Assessment Methods

Assessment methods must be appropriate to the situation. Learners can be encouraged to use these methods for self-assessment. Combinations of these methods will be required for most situations (eg. observations and oral questioning). The recommended assessment methods for collecting the various kinds of evidence required to determine the candidate's competency are:
A — Oral questioning
B — Structured observation of work
C — Indirect supporting evidence (supervisor's reports).
Not all the methods need to be used. For example, during the assessment period the assessor may find that they don't need all three methods to collect sufficient evidence. The assessor may also plan to use other, equally valid, combinations of assessment methods. It is recommended that assessors use open questions in conjunction with direct observations to assess the candidate's ability to:

- apply relevant knowledge to the particular task
- perform the required tasks safely and efficiently
- handle unforeseen contingencies and circumstances
- recognise and solve problems associated with the whole job (which may not necessarily occur during the assessment).

It is recommended that supervisor's reports or verified calculations are used to confirm that workplace job activities have been completed on time and meet the required specifications. This is particularly relevant when the assessor is not for the total duration of the workplace job activity and/or the learner/candidate works as part of a team.
More information is contained in the following section 3.10 — Guide to Assessment Methods and Items.

1.3.09 Sample assessment instruments to support training and assessment material design

3.9 Sample assessment instruments to support training and assessment material design

Information related to assessment material design, training and assessment activities, and sample assessment materials against competency standard units in this Training Package is included in Appendix B — Sample assessment instruments to support training and assessment material design.

1.3.10 Guide to Assessment Methods and Items

3.10 Guide to Assessment Methods and Items

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.
The critical safety nature of working with electricity and electrical equipment carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. These considerations can be summarised as follows:

Irrespective of these considerations the assessment methods and instruments used should satisfy the conditions associated with sufficiency, currency, authenticity, validity, reliability, and be holistic in nature.
The following *Guide to Assessment Methods and Items* provides a summary of assessment methods in common use and the situations in which they may apply.

Guide to Assessment Methods and Items

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
Written objective tests	True/false Multiple choice Matching Completion	Confirming essential factual knowledge, principles Assessing deduction, transfer of knowledge Complementing other methods	Controlled classroom High level supervision Large numbers	Moderate	Many
Written responses, short and extended answers	Calculations Definitions, explanations Essays	Assessing use of information Application of knowledge General ideas and solutions Research, organisation and expression of concepts or ideas	Test condition as above or Minimal supervision, and assistance	Moderate	Many
Oral test/ technical interview	Set question Scenarios	Assessing depth and breadth of knowledge Application of knowledge Relative to experience	Interview condition One to one	Moderate	Many
On job or	Observation,	Identifying	Normal	High	Nil to many

workplace assessment	checklist Product assessment Questioning to complement observations	mastery or competence of practical task, technical skill or interpersonal skill in real or simulated setting Identifying gaps in education and training	working conditions Moderate level supervision One to one Avoid expensive or hazardous situations		depending on assessment of product or process
Practical/ Exercises	Stimulated work exercises Structured practical exercises Fault finding exercises	Checking mastery or competence of a practical task, technical skill, or subset of performance in a simulated work setting	Controlled laboratory or field setting High level supervision 10 to 15	Low	Several
Practical projects	Research task or investigation Product or process development Individual learning contract	Assessing integration and application of a number of work related skills to solve a given problem Assessing individual approaches, innovation, creativity Assessing interaction with others	Access to laboratory, workshop or workplace Little supervision 10 to 15	Low	Several
Assignments	Resource life Case studied Poster presentation Reports of video or speaker presentations Reports of	Confirming competence to research, analyse and synthesise information Assessment of application of knowledge, skills and attitudes where practical	Moderate of level control Non-test conditions Little supervision 10 to 15	Low	Several

	laboratory/field work, excursions Individual learning contracts Writing simple manuals or procedures	testing is not feasible Assessment of communication skills			
Personal appraisal	Checklists or criteria which enable peer or self assessment	Establishing readiness for summative assessments Assessment of an individual's performance within a team effort	Non-test conditions Little supervision Small numbers	Low	Many
Verbal assessment	Oral exposition or lecture Seminar, presentation and group discussion Oral/aural tests Interviews	Confirming understanding of principles underpinning performance Supplement other assessment methods Verification of learner's submitted work.	Moderate level of control High level of supervision One to one	Low	Several
Profiling	Structure manual or computer-based log.	Tracks competency development against the industry standard profile specified by CSUs. Identifies when remedial action is required during development period.	[3]Real work conditions under workplace supervision. Off-job assessment events Any number	Low / Medium	On going

[2] A valid profile is based on periodic collection of relevant data over the duration of a competency development training program.
[3] A complete profile is constructed from all required evidence of competency, however where a profile of only workplace performance is used it must be supplemented with other methods such as those outlined in this table.

1.3.11 Guidelines for Conducting Assessments

3.11 Guidelines for Conducting Assessments

The following guidelines describe the industry-preferred process for conducting assessments against the competency standard unit(s) in this Training Package. This process applies to all assessments conducted for the purposes of national recognition in both institutional and workplace contexts.
Assessment within the Gas Industry is to be carried out by a qualified assessor trained in the conduct of assessment:

- Assessment should be planned, arranged and organised well in advance of the event/process.
- The candidate should be involved in the planning and preparation so that their readiness and availability is assured, and their advice on evidence collection opportunities may be considered.
- The environment within which assessment is to occur is acceptable to the parties and conducive to the assessment process.
- The assessor's actions throughout the process are firm, fair, friendly and unambiguous.
- Specific rulings on safety breaches are explained up-front and acted on in accordance with the assessment materials.
- The assessment process should contain no surprises for any party.
- Feedback is provided as required throughout the assessment process.
- Post assessment activities including recording, reporting, counselling etc. are finalised promptly.

Candidates will invariably be accepting of the outcomes of an assessment process in which:

- they consider they were treated fairly, consistently and with dignity
- they were given the full opportunity to demonstrate their capabilities
- the reasons for the assessment decisions were appropriate, logical and constructively explained
- the assessment judgements are conveyed in a sensitive and constructive manner.

The following provides an overview for assessment within the Gas Industry. It outlines the process involved in conducting assessment in both the institutional and workplace context, and consists of three major components that each assessor will need to do:

Prepare for Assessment

The assessor:

- establishes the context and purpose of the assessment
- identifies the relevant competency standard unit(s), assessment guidelines and qualification framework in this Training Package which contains the vocational standards for industry including the relevant performance measures applying to assessment
- identifies any NQC noted support materials that have been developed to facilitate the assessment process
- analyses the competency standards and identifies the evidence requirements;
- identifies potential evidence collection methods
- identifies issues related to techniques, OHS, language and literacy, cultural diversity, under-represented groups, key competencies and skills enabling employment.

Prepare the candidate

The assessor meets with the candidate to:

- discuss and confirm the purpose of assessment with the candidate and where appropriate, the employer
- explain the context and purpose of the assessment and the assessment process
- explain the competency standards to be assessed and the evidence to be collected and ensure the candidate has access to the relevant competency standards and other relevant information
- explain and obtain agreement to the assessment procedure
- advise on self-assessment, including processes and criteria
- outline the assessment procedure, the preparation the candidate should undertake, and answer any questions
- assess the needs of the candidate and, where applicable, negotiate reasonable adjustment for assessing people with disabilities without compromising the integrity of the competencies
- seek feedback regarding the candidate's understanding of the competency standard unit(s), evidence requirements and assessment process
- determine if the candidate is ready for assessment and, in consultation with the candidate, decide on the time and place of the assessment
- develop an assessment plan
- discuss the Gas Industry and enterprise assessment policy with the candidate (ie how the competencies to be assessed will fit in with the Industry training policy and preferred framework or enterprise arrangements for training and assessment. The assessor should also understand what the candidate has done to acquire the knowledge and skills).

Plan and prepare evidence-gathering process

Practical assessment should preferably be conducted on site. However, if on-site practical assessment is not possible then off-site assessment at a mutually agreeable site could be appropriate. It can be part of the current work (i.e. observation of current tasks) or a demonstration, ie a simulated task.

The assessor must:

- establish a plan for gathering sufficient quality evidence about the candidate's performance in order to make the assessment decision (and involve industry representatives in the development of plans for the validation of assessment)

- identify opportunities to gather evidence of competence which occurs as part of the workplace activities
- ensure the planned approach to gathering evidence will provide sufficient, reliable, valid and fair evidence of competence
- source or develop assessment materials to assist in the evidence gathering process
- choose the techniques that will be used to assess the candidate's knowledge and skill
- organise equipment or resources required to support the evidence gathering process
- check the assessment environment permits fair, valid and reliable assessment and that it is safe and accessible
- inform other relevant people of assessment plans, coordinate and brief other personnel involved in the evidence gathering process
- identify the need to gather additional evidence which may not occur as part of workplace activities
- consider issues related to techniques, OHS, language and literacy, cultural diversity, under-represented groups, key competencies and skills enabling employment.

Collect the evidence and make assessment decisions

The assessor must:

- establish and oversee the evidence gathering process to ensure its validity, reliability, fairness, flexibility and consistency
- collect appropriate evidence and assess this against the Elements, Performance Criteria, Range Statement and Evidence Guide in the relevant competency standard unit(s)
- evaluate evidence in terms of the four dimensions of competency — task skills, task management skills, contingency management skills, and job/role environment skills
- incorporate allowable adjustments to the assessment procedure without compromising the integrity of the competencies
- evaluate the evidence in terms of validity, consistency, currency, equity, authenticity and sufficiency
- gathers evidence related to techniques, OHS, language and literacy, cultural diversity, under-represented groups, key competencies and skills enabling employment
- consult and work with other staff, assessment panel members or technical experts involved in the assessment process
- document the evidence gathered in accordance with the assessment procedure and record details of evidence collected
- make a judgement about the candidate's competency based on the evidence and the relevant competency standard unit(s) and the criteria specified in the assessment procedure.

Provide feedback on the assessment

The assessor must provide advice to the candidate about the outcomes of the assessment process. This includes providing the candidate with:

- clear and constructive feedback on the assessment decision
- information on ways of overcoming any identified gaps in competency revealed by the assessment
- the opportunity to discuss the assessment process and outcome
- information on reassessment and the appeals process.

Record and report results

The assessor must:

- record the assessment outcome according to the policies and procedures of the RTO
- maintain records of the assessment procedure, evidence collected and the outcome according to the policies and procedures of the RTO
- maintain the confidentiality of the assessment outcome
- organise the issuing of qualifications and/or Statements of Attainment according to the policies and procedures of the RTO.

Review assessment process

On completion of the assessment process, the assessor must:

- review the assessment process
- report on the positive and negative features of the assessment to those responsible for the assessment procedures
- if necessary, suggest to appropriate personnel in the RTO ways of improving the assessment procedures.

Participate in the reassessment and appeals process

The assessor must:

- provide feedback and counsel the candidate, if required, regarding the assessment outcome or process, including guidance on further options
- provide the candidate with information on the reassessment and appeals process
- report any disputed assessment decision to the appropriate personnel in the RTO
- participate in the reassessment or appeal according to the policies and procedures of the RTO.

Review and maintenance of the assessment system

The developer and custodian, EE-Oz Training Standards of this Training Package which contains the vocational standards for industry is responsible for the ongoing monitoring and review of these Assessment Guidelines. This process will be incorporated in the general review and maintenance of this Training Package.

1.3.12 Maintenance of Assessment Guidelines

3.12 Maintenance of Assessment Guidelines

The Gas Industry Assessment Guidelines were developed by, and are therefore owned by, the industry.
The Assessment Guidelines must be maintained so that it reflects the ongoing needs of the Industry sector and responds in a timely manner to changed technologies, work organisation, skills development and related circumstances.
Responsibility for maintaining of the Assessment Guidelines is shared by the parties who constitute the sector:

- Assessment Guidelines maintenance will be coordinated and managed by EE-Oz Training Standards in its role as a declared Industry Skills Council for ElectroComms and EnergyUtilities, and
- Suggestions and proposals for changes from all parties are welcome. These should be documented and submitted to EE-Oz Training Standards the DEST declared Industry Skills Council for the ElectroComms and EnergyUtilities Industry.
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1.3.13 General Resources

3.13 Further Sources of Information

Contacts

ElectroComms and EnergyUtilities Industry Skills Council Ltd
Trading as: EE-Oz Training Standards
48 Mort St
Braddon ACT 2612
Telephone: (02) 6154 5180 Fax: (02) 6241 2177
Email: ee-oz@ee-oz.com.au
Website: www.ee-oz.com.au

Technical and Vocational Education and Training (TVET) Australia Limited
Level 21, 390 St Kilda Road, Melbourne VIC 3150
PO Box 12211, A'Beckett Street Post Office,
Melbourne, Victoria, 8006
Ph: +61 3 9832 8100
Fax: +61 3 9832 8198
Email: sales@tvetaustralia.com.au
Web: www.tvetaustralia.com.au

For information on the Training & Education TAE10 Training Package contact:
Innovation & Business Skills Australia
Level 11, 176 Wellington Parade,
East Melbourne, VIC, 3002

Telephone: (03) 9815 7000
Facsimile: (03) 9815 7001
Email: virtual@ibsa.org.au
Web: www.ibsa.org.au

General Resources

AQF Implementation Handbook, Fourth Edition 2007. Australian Qualifications Framework Advisory Board, 2002 <www.aqf.edu.au>
Australian Quality Training Framework (AQTF) and AQTF 2010 Users' Guide to the Essential Standards for Registration – http://www.training.com.au/pages/menuitem5cbe14d51b49dd34b225261017a62dbc.aspx
For general information and resources go to http://www.training.com.au/
The National Register is an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses - www.ntis.gov.au
The Training Package Development Handbook site provides National Quality Council policy for the development of Training Packages. The site also provides guidance material for the application of that policy, and other useful information and links.
http://www.deewr.gov.au/Skills/Overview/Policy/TPDH/Pages/main.aspx
Refer to http://antapubs.dest.gov.au/publications/search.asp to locate the following publications.

Assessment Resources

Registered training organisations (RTOs) are at the forefront of vocational education and training (VET) in Australia. They translate the needs of industry into relevant, quality, client-focussed training and assessment.
RTOs should strive for innovation in VET teaching and learning practices and develop highly flexible approaches to assessment which take cognisance of specific needs of learners, in order to improve delivery and outcomes of training.
Resources can be purchased or accessed from:
TVET Australia – provides an integrated service to enable users of the national training system to identify and acquire training materials, identify copyright requirements and enter licenses for use of that material consistent with the scope and direction of the NQC.
http://www.productservices.tvetaustralia.com.au/

Training Package Assessment Guides

A range of resources to assist RTOs in developing Training Package assessment materials (originally developed by DEST with funding from the Department of Education, Training and Youth Affairs) and made up of 10 separate titles, as described at the publications page of <www.dest.gov.au>.
Go to: http://www.resourcegenerator.gov.au/loadpage.asp?TPAG.htm
Printed and CD ROM versions of the Guides can be purchased from Technical and Vocational Education and Training Australia Limited (TVET). The resource includes the following guides:

a. Training Package Assessment Materials Kit
b. Assessing Competencies in Higher Qualifications
c. Recognition Resource

d. Kit to Support Assessor Training
e. Candidate's Kit: Guide to Assessment in Australian Apprenticeships
f. Assessment Approaches for Small Workplaces
g. Assessment Using Partnership Arrangements
h. Strategies for ensuring Consistency in Assessment
i. Networking for Assessors
j. Quality Assurance Guide for Assessment

An additional guide 'Delivery and Assessment Strategies' has been developed to complement these resources.

Assessment Tool Design and Conducting Assessment

VETASSESS and Western Australian Department of Training and Employment, 2000, Designing Tests — Guidelines for designing knowledge based tests for Training Packages.
Vocational Education and Assessment Centre 1997, Designing Workplace Assessment Tools, A self-directed learning program, NSW TAFE.
Manufacturing Learning Australia, 2000, Assessment solutions, Australian Training products, Melbourne.
Rumsey, David 1994, Assessment practical guide, Australian Government Publishing Service, Canberra.

Assessor Training

Australian Committee on Training Curriculum (ACTRAC), 1994, Assessor training program — learning materials, Australian Training products, Melbourne.
Australian National Training Authority, A Guide for Professional Development, ANTA, Brisbane.
Australian National Training Authority, Facilitator Packs for Certificate IV in Training and Assessment.
Australian National Training Authority, Facilitator's Pack for Train Small Groups and Assessment.
Australian Training Products Ltd, Training and Assessment, Training Package — Toolbox.
Green, M., Moritz, R., Moyle, K. and Vale, K., 1997, Key competencies professional development Package, Department for Education and Children's Services, South Australia.
Victorian TAFE Association, 2000, The professional development CD: A learning tool, VTA, Melbourne.

Conducting assessments

Bloch, B. and Thomson, P., 1994, Working Towards Best Practice in Assessment: A case study approach to some issues concerning competency-based assessment in the vocational education and training sector, NCVER, Adelaide.
Docking, R., 1991, An A-Z of Assessment Myths and Assessment in the Workplace, Competence assessment briefing series, No. 4, Employment Department, Perth, Western Australia.
Hawke, Geoff, 1996, Integrating Assessment of Learning Outcomes, Assessment Centre for Vocational Education, Sydney.
Hawke, Geoff, 1995, Work-based Learning: Advice From Literature, Assessment Centre for Vocational Education, Sydney.

National Assessors and Workplace Trainers Body, Putting it into practice [Training Package implementation Guide].
Parsloe, E., 1992, Coaching, Mentoring and Assessing: A practical guide to developing competence, Kogan Page, London.
Rumsey, David, 1993, 'Practical issues in Workplace Assessment' in National Assessment Research Forum: A forum for research into competency-based assessment. [VEETAC Competency Based Training Working party Assessment Steering Group], NSW TAFE Commission, Sydney.
Rumsey, David, 1994, Assessment Practical Guide, Australian Government Publishing Service, Canberra.

Evidence gathering methods

Australian National Training Authority, 1998, A new assessment tool, ANTA, Melbourne.
Gonczi, A. (ed.), 1992, Developing a competent workforce: adult learning strategies for vocational education and training, TAFE National Centre for Research and Development, Adelaide.
Kearney, Paul, 1992, Collaborative assessment techniques, Artemis, Tasmania.
National Assessors and Workplace Trainers Body, The evidence resource kit — containing language, literacy and numeracy video and CD ROM
National Assessors and Workplace Trainers Body, The evidence workbooks

Assessment System Design and Management

Office of Training and Further Education 1998, Demonstrating best practice in VET project – assessment systems and processes, OTFE Victoria.
Toop, L., Gibb, J and Worsnop, P, Assessment system designs, Australian Government Publishing Service, Canberra.
Western Australia Department of Training and VETASSESS 1998, Kit for Skills Recognition Organisations, WADOT, Perth
National Centre for Vocational Education and Research, 1996, Integrating assessment: removing the on the job/off the job gap, Conference papers from 4-6 June, Western Australian Department of Training.
OTFE, 1998, Demonstrating best practice in VET project — assessment systems and processes, Victoria.
Wilson, P., 1993, Integrating workplace and training system assessments, Testing Times Conference, NCVER, Sydney.
Field, l., 1995, Managing organisational learning, Longman, Melbourne.

Recognition of Current Competency/ Recognition of Prior Learning

Recognition and Assessment Centre, 1994, New place: Same Skills. A guide for people from non-English speaking backgrounds, Office of Multicultural Affairs, DEET.
Recognition and Assessment Centre, A Flexible Approach to Recognition Practices: RPL as a Framework, Melbourne Recognition and Assessment Centre, PO Box 299, Somerton, Vic 3062, Telephone (03) 9254 3000.

1.3.14 Further Sources of Information

3.14 Further Sources of Information

This section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package which contains the vocational standards for industry.

Contact	Details
National Industry Skills Council (ISC) for the ElectroComms and EnergyUtilities Industry	EE-OZ Training Standards Ground floor, 68 Campbell Street SYDNEY NSW 2010 Telephone: 02 9280 2566 Fax: 02 9280 1600 Email: ee-oz@ee-oz.com.au Website: www.ee-oz.com.au
Western Australia ITC	**WA IEU ITC Inc** P O Box 597, BALCATTA WA 6021 Tel: 08 9240 2688, Fax: 08 9240 2930 E-mail: roberts@ieu.com.au
New South Wales ITAB	**NSW U&E ITAB** Ground floor, 68 Campbell Street SYDNEY NSW 2010 Tel: 02 9280 2986, Fax: 02 9211 6870 Email: nswueitab@ozemail.com.au
Victoria	**EPIC Industry Training** 29 Drummond St, CARLTON VIC 3053 Tel: 03 9654 1299 Fax: 03 9654 3299 Email: epicitb@epicitb.com
Contact	**Details**
Tasmania	**Energy Skills Australia**

	(TEU ITB) Unit 4/40-50 Innovation Drive DOWSING POINT TAS 7010 Tel: 03 6273 4445, Fax: 03 6273 4446 Email: teuitb@bigpond.com
South Australia	**Electrical, Electrotechnology, Energy & Water Skills Board** 17 Wirriga St, REGENCY PARK SA 5010 Tel: (08) 8347-4008, Fax: (08) 8219-0015 Email: admin@eeewsb.com.au
Queensland	**QUSITAB** PO Box 160, COOPERS PLAINS QLD 4108 Tel: 07 3216 9604, Fax: 07 3345 8346 Email: qusitab@qusitab.com.au
Northern Territory	**Major Industries Training Advisory Council** GPO Box 1610, DARWIN NT 0801 Tel: 08 8981 0077, Fax: 08 8941 7470 Email: mitac@mitac.org.au

Access to Assessment Resources

Learning Resources	**EE-Oz Training Standards** Ground floor, 68 Campbell Street, SYDNEY NSW 2010 Telephone: 02 9280 2566 Fax: 02 9280 1600 Email: ee-oz@ee-oz.com.au Website: www.ee-oz.com.au **Australian Training Products Ltd** Level 25, 150 Lonsdale Street

MELBOURNE VIC 3000

PO Box 5347BB, MELBOURNE VIC 3001

Telephone: (03) 9655 0600

Fax: (03) 9639 4684

Website: http://www.atpl.net.au

Email: sales@atpl.net.au

1.3.15 Appendix A - New Apprenticeships Application

Appendix A — New Apprenticeships Application

New Apprenticeships are work related competency programs designed for entry-level contracted employment for new entrants to the industry. All qualifications in this Training Package could be open to use as New Apprenticeships and are governed by State/Territory Training Authority arrangements and their limitations.
New Apprenticeships offer both employers and employees:

- relevant training
- a range of support service arrangements.

They typically involve paid work and structured training and are underpinned by a training contract, which is registered with the relevant State/Territory Training Authority. Completion of the competency development program leads to an AQF qualification.
In some instances, and subject to any relevant State/Territory Training Authority arrangements, existing non-apprenticed workers may be eligible for New Apprenticeship opportunities. Inquiries with the relevant State/Territory Training Authority should be made in this regard.
Like traditional apprenticeships, New Apprenticeships involve a commitment from:

- the employer to provide an environment for systematic training of the New Apprentice
- the New Apprentices to apply themselves to learning the requirements of their vocation
- a Registered Training Organisation (RTO)[1] to be responsible for providing the vocational education, training and assessment support services and the eventual issuing of a national qualification

[1]For more information on RTOs see DEST's 2005 Australian Quality Training Framework Standards for Registered Training Organisations, effective from 1 July 2005 publication.

In the Gas Industry, New Apprenticeships are available for all the qualifications outlined in this Training Package. New Apprentices seeking one of the national qualifications will be required to undergo a training program or course of study that involves learning and assessment activities. The related learning and assessment activities are documented and involve:

- the employer
- the employee
- the RTO[2]

[2]TAFE Institutions, Universities with TAFE sectors, Skills Centres and similar enterprises that can deliver vocational training are eligible to become RTOs.

On successful completion of the training program or course of study an RTO will issue the New Apprentice a national qualification.

Entry Requirement

Under New Apprenticeships, the employer is able to determine the relevant employment criteria for recruiting a new entrant into the Gas Industry. The choice, however, is usually dependent on enterprise employment practices and needs including requirements that may be imposed by relevant regulations and codes of practice.

There is, however, a common set of attributes/profiles that are industry preferred for the recruiting of New Apprentices. Some of the more common ones are:

- Any person aged 15 years or more can apply for a New Apprenticeship.
- Most employers require applicants who have completed at least Year 10 of a secondary school education program.
- Employers customarily prefer applicants who have successfully completed Years 11 or 12 of a secondary school education program or a post secondary education pre-employment course.

Potential entrants should be aware that employers are looking for the following personal attributes:

- effective numeracy and literacy skills
- effective communications skills
- acceptable presentation
- punctuality
- a positive attitude
- interest in the industry as a career
- ability to work at heights or in confined spaces and around moving machinery
- ability to distinguish between colours.

For entry-level employment based contracted training New Apprenticeships the composition of the relevant qualification needs to be determined in accordance with the completion requirements detailed here and be subsequently agreed to between the respective parties. General principles regarding the composition of qualifications are as follows:

- Competency Standard Units making up a qualification must be appropriate to the work being performed and be performed by the person seeking the qualification
- Competency Standard Units making up a qualification must be appropriate to the level and integrity of the qualification sought.

The terms and conditions for employment based entry-level contracted training require a training agreement or contract, which will be provided by State or Territory Training Authorities. Such an agreement is called an Apprenticeship/Traineeship Training Contract, which requires parties to the contract to select the appropriate qualification, competency standard units and to adopt an industry-preferred model or design a new training plan/program. Additionally, the responsibilities of the parties to the contract will be contained therein.
The employment of an Apprentice (sometimes also called a Trainee) by an Employer is subject to the relevant legislation and any applicable industrial instrument, order or determination made under that related Statutory Act. Appropriate information should be obtained from relevant authorities in this regard.

General principles governing the Competency Development Program
Consultation between the RTO, the employer and apprentice/trainee will have occurred and agreement reached on the Competency Development Program that will be delivered.
Typically the RTO will adopt the industry-preferred approach where regulatory arrangements are in place or design an appropriate program in concert with the Industry. The apprentice/trainee would be expected to undertake the Competency Development Program in order to attain competence in the given qualification.
The Competency Development Program

A training contract provides a description of the process for undertaking training during the life of the program. This is developed in consultation with the RTOs.

The Training Program

1. Expected duration of workplace program in hours

The training program will detail the anticipated duration in hours that the apprentice/trainee is expected to undertake in order to gain the necessary competencies. Information regarding the suggested nominal duration for respective AQF levels of New Apprenticeships is available from respective parties and includes EE-Oz Training Standards. The training plan will outline the requisite on and off-the-job arrangements that apply to it.

2. On-the-job skills development program

In consultation with the apprentice/trainee and employer, the RTO would outline how it intends to monitor the on-the-job component, i.e. providing advice on how evidence is to be gathered when the apprentice/trainee is in the workplace. Apprentices/trainees are expected to assist RTOs in gathering and submitting workplace evidence as per the industry-preferred approach. This is particularly important where regulatory arrangements are in place. RTOs in turn monitor the performance of the apprentice/trainee and provide appropriate feedback to them and the employer.

3. Off-the-job skills development program

The training contract will detail, where applicable, the off-the-job (technical education) program the RTO will deliver in order to gain the necessary underpinning skills and knowledge. This is typically a program preferred by the industry undertaken by the apprentice/trainee. For example where modules or essential knowledge and associated skills strategies apply, the number, title and duration of each will generally be advised. This will also include the expected duration of the technical educational program in hours.

Typical duration — New Apprenticeships

In developing this Training Package due regard has been given, by industry, to a range of influencing factors associated with the typical period of employment and related training for individuals seeking a qualification, using the Australian Qualification Framework (AQF). In developing such, regard has also been given to the NQC policy on providing industry advice on this matter.

As a general rule it is expected, that by employing the respective techniques and processes detailed in the preferred and adopted industry training model, those employed and undertaking training to satisfy the outcomes of competency standard units, as new entry-level recruits, will take a "nominal duration" of employment to complete. EE-Oz Training Standards has developed industry advice in relation to the nominal duration of employment to assist users in their activities. Detailed information on typical new apprentice durations, at each of the AQF levels is available from EE-Oz Training Standards. This detail can be obtained directly from EE-Oz Training Standards or found on the EE-Oz Training Standards website at www.ee-oz.com.au. Additionally, more specific information may be contained within any related support materials that may exist as non-endorsed components of this Training Package and in particular the industry-preferred training plan applicable to each qualification.

Nominal duration of training is generally defined by State, Territory and Federal Training Authorities policies and/or regulations. Typically these are set out in State/Territory Training Package Implementation Guides. Interested State/Territory parties should ensure they refer to the relevant Training Package Implementation Guide. These can be accessed via the respective State/Territory Training Authority websites.

1.3.16 Appendix B - Sample Assessment Instruments to Support Training and Assessment Material Design

Appendix B — Sample Assessment Instruments to Support Training and Assessment Material Design

This Appendix provides advisory and sample information for assessment material design against competency standard units in this Training Package. It is principally about training and assessment activities that can be used to benchmark quality outcomes.

It provides information about assessment material design and other resources available to support implementation of the Training Package. The information contained herein shows how these resources relate to the workplace and where they can be obtained. It includes sample assessment tools (sample instruments) developed to assist those involved in benchmarking their activities for gathering evidence about workplace activities and workplace experiences for training and assessment purposes.

Sample assessment instruments included were developed for documenting workplace experiences related to the requirements of this Training Package. The assessment strategies and instruments are primarily for use as advisory information for workplace assessors and/or their agents (workplace supervisors or technical experts) who may be employees of Registered Training Organisations or enterprises.

A number of terms used refer to aspects of implementing the Training Package. A Glossary of Terms (*see* Appendix B Enclosure C) is included to clarify the specific meaning of these terms.

This Appendix should be read in conjunction with the following publications:

- The respective volumes of this Training Package
- Training Package for Training and Assessment TAA04
- Training Acts and Regulations in the relevant Australian State or Territory
- Policies of the Registered Training Organisation (RTO) involved with training and assessment for the Industry.

Sources of Education, Training and Assessment Information

Introduction

This section shows how the Training Package and associated resources relate to recruitment, training, assessment and recognition activities which may be undertaken by Industry, enterprises and/or Registered Training Organisations.

This section also introduces a competency development and/or recognition model based on combined on and off-the-job training, as well as a model that allows individuals to have previous learning and work experience recognised.

Combined on and off-the-job competency development model

The model shown below is a simplified version of the detailed contracted new entry level industry-preferred competency development model which combines on and off-the-job education, training and assessment leading to competent performance. A detailed copy of the model is available from EE-Oz Training Standards website at www.ee-oz.com. This model recognises that learning occurs as a result of:

- experience in recurring workplace events
- directed workplace learning activities
- structured off-the-job essential knowledge and associate skills technical educational activities.

Competency Development Model

This model is structured around a new entry level learner undertaking a full competency development program. The model can also accommodate the assessment of prior learning within the continuum of new entrant to competent. In this way it is consistent with the Assessment Pathways outlined in this Assessment Guidelines part of the Training Package.

New Entrant Training and Assessment Materials and Resource Design and Development

In designing training and assessment materials and resources to support new entrant competency development consideration should be given to the preferred Industry approach to learner development. The concept model detailed on the next page explores how training and assessment materials and resources may be best developed for one or many competency standard units. RTOs using this approach ensure increased consistency in meeting the specifications in learning and work performance against the competency standard units, and in developing the learner in a cost effective way with little disruption to the day-to-day operation of the workplace. It also assures that a learner having completed aspects of, but not the full array of, competency standard unit(s), can be accorded information that is sufficient to warrant recognition for learning content (Essential Knowledge and Associated Skills) that is transferable to other environments in the Industry.

EKAS LS – Essential Knowledge and Associated Skills Learning Specifications = where EKAS LS 1 — may cover many units, EKAS LS 2 — may cover a number of units, EKAS LS 5 — may cover several units, and/or EKAS LS 11 – may be unique to the unit (refer to Volume 1 Part 2 and Volume 2 Part 2 for more detail)

Recognition of Prior Learning/Experience Model

A typical process for candidates seeking to have their prior experiences recognised within the model is shown in the following diagram.

Learning and Assessment strategies

Introduction

The skills and knowledge required by a competent worker are described in terms of competency standard units. To be assessed as 'competent', against competency standards, individuals need to demonstrate they have achieved the requisite workplace functions and have also acquired the specified essential knowledge and associated skills (EKAS) underpinning performance.

A candidate wishing to be assessed against a specific competency standard unit(s) must be assessed by a qualified assessor. The assessor must use assessment processes, methods and tools which are in line with this Training Package.

Assessment involves gathering evidence to demonstrate that an individual has the necessary essential knowledge and associated skills required by the specified competency standard(s) together with requisite work performance. This may include assessment of knowledge and skills obtained through educational courses as well as through application of knowledge and skills in the workplace using workplace processes, equipment and activities.

Assessment Planning

Good planning of workplace assessment is most important. The plan is to be based on a suitable process that is in line with the Competency Unit — TAAASS401A Plan and organise assessment from the Training and Assessment Training Package. Assessors need to address the following components of competence in Training Package TAA04, which cover:

- establishing evidence requirements for a specific context
- establishing suitable assessment methods
- developing assessment tools appropriate to a specific assessment context
- trialling assessment procedure.

The Assessment Process

The general process for assessing competence is shown in the following diagram.

Assessors need to adapt the process to take account of physical and operational conditions as well as the characteristics and background of the candidate being assessed. Once the process has been finalised, the candidate should be advised.

The Assessment Guidelines of this Training Package identify three assessment pathways for the Industry, as follows:

- Pathway 1: For new entrants to the industry
- Pathway 2: Recognition of prior learning of those with experience in the Industry
- Pathway 3: Recognition of equivalent Competency Standards Units from other Industry Training Packages

Pathway 3 can be incorporated within the Pathway 2 processes and activities.

Establishing the Evidence Requirements

The Training Packages provides a clear statement regarding the evidence requirements in the Evidence Guide and in particular the critical aspects of evidence of each competency standard unit. The following is an extract from one competency standard unit.

'***Critical aspects of evidence***

Before the critical aspects of evidence are considered all prerequisites shall be met. Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEG06'. Evidence shall also comprise:

- A representative body of performance criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in Clause 6.1 'Essential knowledge and associated skills' of this unit to such an extent that the learner's performance outcome is reported on a percentile basis consistent with the preferred industry and/or regulatory benchmark requirements
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated performance across a representative range of contexts from the prescribed items below:
  - Verify compliance and functionality of general electrical installations as listed in Clause '5. Range statement' and including:

    A — Selecting correct tools and testing equipment.
    B — Identifying visual non-compliance defects
    C — Using effective methods for conducting mandatory and optional tests
    D — Identifying non-compliance from test results.
    E — Identifying causes of non-compliance.
    F — Completing mandatory reporting.
    G — Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items'

The evidence on which competency in this unit is deemed shall be considered holistically. encompassing '**items'** of evidence that industry has deemed critical and that also relate directly to the Performance Criteria and Range Statements. These could include:

- Specific tools, plant and equipment.
- Specific testing techniques

- Any advice limiting assessment to actual workplaces, for example because of licensing, regulatory or unique infrastructure requirements
- Specific licensing and regulatory requirements.
- Any advice dealing with unexpected and non-routine contingencies by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment

Assessment Methods

Appendix B provides detailed information and examples of the methods and tools that may be used in the industry to help the assessment process.
Assessment involves determining whether a candidate has provided sufficient evidence to demonstrate that they have a specified level of skills and knowledge which they can apply in their work environment.
The evidence provided may include, for example:

- Work activity records
- a transcript of training outcomes
- a portfolio of learning experiences
- a self-assessment by the candidate against the relevant competency standard(s).
- supervisor's report(s), addressing requirements of the identified competency standard(s).
- practical demonstration.
- details of training undertaken linked to requirements of the identified competency standard(s), such as a profiling or 'many samples' reports
- outcomes of a challenge test.

The assessor may use a variety of assessment methods to gather evidence. Appropriate methods for documenting workplace experiences related to this Training Package are:

- on-the-job work observation
- practical exercises in the workplace or under simulated workplace conditions
- appraisal and report by a supervisor/trainer or colleague
- questioning and discussion with the candidate
- written/practical test
- any Industry Skills Council equivalence mapping declaration for competency standard units held from other Industry Training Packages

Develop the Assessment Tools

The assessment tools include:

- instruments for gathering evidence — samples included as Enclosure A in Appendix B
- forms for administrating the process — samples included as Enclosure B in Appendix B
- assessment design materials Glossary of Terms — included Enclosure C in Appendix B.

Trial the Assessment Procedure

It is very important to trial the assessment strategy. There is a need to make sure it is appropriate to the context in which the assessment is conducted. This will involve such things as:

- Focus on the specific requirements of the competency standard unit being assessed.
- Consideration of the characteristics and background of the person being assessed to make sure the assessor supports the candidate in their understanding of the process and the skills and knowledge that need to be demonstrated.
- Use of assessment methods and instruments to make sure the evidence gathered:
  - - addresses the conditions required to meet the Critical Aspects of Evidence as outlined in this Training Package and related competency standard units
  - - is drawn from a variety of sources and reflects the required range of work circumstances
  - - provides reasonable certainty that the evidence submitted is sufficient, current and authentic.

The selection and application of assessment tools is a decision made by assessors. There is no standard answer, however the following is provided as general guidance.

- Assessors need only gather enough evidence so they can make a judgment that competence has been demonstrated. Too much evidence may be difficult to analyse in a consistent manner, whereas insufficient evidence fails to satisfy the assessment criteria.
- Assessors need to adjust or modify the assessment processes and tools as required, within the constraints of achieving a valid, reliable and fair outcome.
- Assessors need to make sure assessment procedures satisfy the principles of assessment (validity; reliability; flexibility; fairness).
- Assessors need to be cognisant and use the industry-preferred assessment approach, as a first option.

1.3.17 Appendix B - Enclosure A: List of Sample Assessment instruments

Appendix B — Enclosure A: List of Sample Assessment instruments

Enclosure A1 Work activity records
Enclosure A2 Transcript of training outcomes
Enclosure A3 Portfolio
Enclosure A4 Self analysis
Enclosure A5 Candidates exposure to Range Statement
Enclosure A6 Supervisor's report
Enclosure A7 Supporting skills report
Enclosure A8 Questioning
Enclosure A9 Practical demonstration
Enclosure A10 Final/challenge test
Enclosure A11 Contracted entry level Profiling Model

Enclosure A1 — Work Activity Records
Work Activity Records may be produced in paper-based or in electronic form. Each Work Activity Record may relate to a group of Competency Standards or if need be a competency standard unit.
The activities and experiences recorded in this mode mostly relate to recurring workplace events associated with elements of performance involving exposure to a range of plant, tools, equipment, components and operating systems that are representative of normal work activities. Activities such as these, under appropriate levels of supervision, are important to a candidate's development.
Such records provide valuable data for:

- Candidates and their supervisor's to track progress in acquiring work-based competencies.
- Assessors to make decisions about a candidate's level of competence.

Work Activity Records summarise:

- relevant activities – (elements) and jobs/tasks undertaken at work
- associated resources used (such as tools, plant/equipment, procedures, and operating systems)
- the period of exposure to each type of task
- the level of supervision provided in the workplace.

This type of record is completed by the Candidate in conjunction with their Supervisor and signed by this Supervisor. It is important that workplace experiences are documented by candidates to help them see how their work experience is developing respective skills and knowledge specified in the relevant competency standard units. Assessors, as a result of the records, can easily analyse them to determine if:

- exposure to the desired workplace activities has occurred.
- the level of supervision is in keeping with the degree of autonomy required by the competency standard unit.

- The learner is able to perform 'whole of job' activities.

The ElectroComms and EnergyUtilities Industry Skills Council trading as EE-Oz Training Standards has a model paper based document that candidates can use to record their workplace activities and experiences. The document is called a User Guide. It is formatted in a way that links workplace activities to competency standard units.
More information, including User Guides and techniques for recording workplace experiences electronically are available from the EE-Oz Training Standards at website: www.ee-oz.com.au.

Enclosure A2 — Transcript of Training Outcomes

Essential Knowledge and Associated Skills (EKAS) learning specifications and related results using training modules/topics/subjects that are completed off-the-job develop an individual's technical underpinning knowledge and skill. This may apply where the industry expects such due to the regulated or preferred nature of work.
These learning specifications provide the learner with the essential underpinning knowledge and associated skills required to:

- deal with both routine and non-routine technical activities
- readily adapt their skills when new technologies are introduced
- transfer skills to new work environments.

The Registered Training Organisation (RTO) who is issuing the credential can generally provide current information about an individual's progress in the essential knowledge and associated skills or mapped modules/topics/subjects.
Learners that have undertaken a recognised structured training program with an RTO should submit a formal transcript – 'Statement of Results' (training outcomes) from the issuing RTO as evidence, for inclusion in the process of competency assessment.
Candidates seeking recognition of prior learning need to provide evidence of knowledge and skills equivalent to the content of the essential knowledge and associated skills specifications (modules/topics/subjects) detailed in the competency standard units in which they are being assessed as well as their workplace experiences. Applicants for recognition of prior learning may also seek advice from the Registered Training Organisation about the equivalence status of available evidence of their acquired knowledge and skills.
The ElectroComms and EnergyUtilities Industry Skills Council trading as EE-Oz Training Standards at www.ee-oz.com.au can provide advice in regard to the availability of the essential knowledge and associated skills learning specifications for training modules/topics/subjects, which have been aligned to respective competency standard units and essential knowledge and associated skills clauses.

Enclosure A3 — Portfolio

A portfolio is a collection of documents that demonstrate an individual's professional experiences and achievements in relation to identified competency standards. Typically, portfolios include information from a variety of sources including academic achievements, employment record, work activities, supervisor reports and references.
The candidate should prepare their own portfolio as an accurate reflection of their work and academic history and achievements.
Assessors advise candidates about the amount, type and format of evidence they should submit for assessment against identified competency standard units.
The use of a Portfolio as an assessment instrument can be enhanced by the use of the Self-analysis form included as Enclosure A4.

Enclosure A4 — Self Analysis

A self-analysis involves the candidate in assessing their own level of skills and knowledge acquired through work experience and relevant training programs.
Candidates should complete a Self-Analysis Form in relation to each competency standard being assessed, identifying the evidence they can provide to demonstrate each required component of their skills and knowledge.
Assessors can check the references to determine if the evidence provided links directly or indirectly to the requirements outlined in competency standard units and use this data as part of the overall assessment process.
Typically, the self-analysis form would be used for a Pathway 2 Assessment, however, it could have application in a Pathway 1 Assessment in certain circumstances.

Self-Analysis Application Form

This form allows candidates to summarise their vocational experiences in relation to a particular competency standard unit or a group of units. The information provided is used to identify the list of competencies sought for assessment. They will need to support their responses to questions, claims and/or comments with authentic evidence. To do this, it is recommended that they develop a portfolio of evidence to be submitted with this self-analysis application form. They should be advised to cross reference the information they provide with the information provided in their Portfolio.
They must however, be provided with clear instructions about the information required before they complete each respective form. They also need to view and understand the detailed requirements of the competency standard unit(s) against which they are seeking assessment. A workplace assessor should assist them with the instructions and details.
They may need to submit a separate Self-Analysis Form for each competency standard unit(s) for which they are seeking recognition. The Self-Analysis Application Form could be like the sample provided below.

Sample — Self-Analysis Application Form

Enter the codes and title of the National Qualification and title and codes the competency standard unit(s) from qualification for which you are seeking recognition.

Title of National Qualification	**Title and code of Competency Standard Unit(s)** **(For which recognition is being sought)**
	•
	•
	•

	•
	•
	•
	•

Enter the codes and titles of Certificates, Qualifications, Transcripts of Academic achievement, or Licences that you believe to be supporting evidence.
(Remember to include these documents in your portfolio. You must be able to demonstrate how each document relates to the respective competency standards.)

Code and name of Certificate, Qualification, Transcript of academic record or Licence	Year Achieved

Note: For all Certificates, Qualification and associated transcripts of academic records identified above, a certified copy must be provided.

- Approximately how many jobs have you been involved in that relates to each of the respective competency standard unit(s)?

  Competency Standard Unit 1 _____ Jobs
  Competency Standard Unit 2 _____ Jobs
  Competency Standard Unit 3 _____ Jobs
  Competency Standard Unit 4 _____ Jobs
  Competency Standard Unit 5 _____ Jobs
  Competency Standard Unit 6 _____ Jobs
  Competency Standard Unit 7 _____ Jobs

- Give details about the **largest** job you have been involved with. Briefly describe the job and where it was carried out. (Portfolio Ref _____)

- Estimate the total amount of time (for all similar job mentioned above of all size) you have been involved with — tick box. (Portfolio Ref _____)

	Less than 1 week	1 to 4 weeks	4 to 10 weeks	10 weeks to ½ year	More than ½ year
1					
2					
3					
4					
5					
6					
7					

- Describe the level of involvement you have had in this type of work — tick box. (Portfolio Ref _____)

	Carrying out jobs organised by others	Carrying out jobs organised by others and completing all tests and/or writing of reports	Planning the job from the beginning, carrying out the work and completing all tests and writing of reports

1			
2			
3			
4			
5			
6			
7			

- To what extent were you involved in this type of work? — tick box. (Portfolio Ref _____)

	Carrying out routine tasks	Carrying out and manage several routine tasks at one time	Deal with non routine tasks including diagnosing and rectifying faults	Organising others you work with and dealing with clients
1				
2				
3				
4				
5				
6				
7				

- How much training did you require to perform the work? — tick box. (Portfolio Ref _____)

	Self taught skills	Basic technical knowledge and skills	Analytical technical knowledge and skills	People and customer skills

1				
2				
3				
4				
5				
6				
7				

- To what degree were you supervised when performing the work? — tick box.

Constant supervision ☐ General supervision ☐ Self supervision ☐

1			
2			
3			
4			
5			
6			
7			

- Describe any special features or circumstances about the type of work you have been involved with. (Portfolio Ref _____)

- List as many different types of equipment items you used when you carried out the work associated with the competency standard units. Make the list under headings such as plant, tools, components, systems and the like. A workplace assessor can assist you with the headings. A separate form may be provided for supplying this information. (Portfolio Ref _____)

Unit code	Unit title	Items

- For the competency standard units, have you completed a whole job using the equipment items listed above? Also indicate the number of times you have done so.

CSU — 1	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 2	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 3	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 4	Involvement (circle yes or no)		Number of times	
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 5	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 6	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 7	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	

	Completed the work	Yes	No	

Declaration by Candidate

All the information provided is entirely factual:

Name: ……

Signed ……..…. Date: ……..

Enclosure A5 — Candidate Exposure to Range Statement

This assessment instrument augments other information needed for judging competence and, where required, should be completed by the candidate to provide a list of components, tools, systems, plant, test equipment and associated items outlined in the Range Statement in individual competency standard units. As the Range Statement is a component part of the whole competency standard unit assessors should ensure the gathering of evidence by the candidate is considered a formative part of the assessment process and that, once the evidence is presented a holistic approach to judging and attributing competence is exercised in conjunction with other related data.

A separate form is required for each competency standard unit to be assessed. The assessor should complete the following parts of this form in conjunction with the candidate to make sure they are clear about what is required:

- Competency Standard Unit Title and Unit Number
- Candidate's Name
- Date
- Range Statement — Item Group:
  Consult the Range Statement as described in section *Establishing the evidence requirements* of this Document. Each group alpha character is to represent an appropriate group of variables, such as components, tools, system, plant, processes, equipment etc, as required by the particular competency standard.
- Range Statement — Items involved:
  List the particular items that have been predetermined as being critical from the critical aspects of evidence section when the evidence requirements were established (see *Establishing the evidence requirements*).

Candidates place a tick in the column against those items they have been exposed to in a work environment. Candidate should add to the list of items involved, where appropriate. Here is an example.

Competency standard unit – _____ *(Assessor to complete this section)*		***Candidate to complete***
***Range Statement Item Group**	***Range Statement Items Involved**	**Identify the items you have worked on**
A Personal protective equipment	**Goggles**	4
	Gas mask	4
	Boots	
	Gloves	4
B Pipe types	**Cast Iron**	
	Plastic	4

Candidate's work experience with items in the Range Statement listed in this Competency Standard Unit

Competency standard unit title:		**Unit no:**
Candidate's name:		**Date:**
		Candidate to complete **Identify the items you have worked on**
Range Statement Item Group	**Range Statement Items Involved**	
A		

B		
C		
D		

Declaration by Candidate

All the information provided is entirely factual:

Name: ……

Signed ……..…. Date: ……..

Enclosure A6 — Supervisor's report

Typically, the 'supervisor' (mentor) approached to provide a report for competency assessment will have spent considerable time guiding or monitoring the candidate in his/her development by providing supervised workplace learning experiences, appropriate to the candidate's ability.

Supervisors should be asked to comment on the candidate's demonstrated ability to:

- demonstrate specific skills as described in the respective aspects of the competency standard units under assessment
- apply required essential underpinning knowledge and associated skills (eg. as learnt in their technical studies) to the work undertaken
- work in a team or independently in a way that is productive and safe.

Comments made by the candidate's supervisor/mentor are an important source of evidence for assessors.

The supervisor's report can be completed as part of the pre-assessment planning process or during any other part of the process. More than one supervisor can provide information.

Assessors should make sure supervisors are clear about the specific detailed requirements of the Gas Industry Competency Standards targeted for assessment.

Supervisor's Report on _____(Learner's Name)	
Name of Supervisor/Assessor: _____	**Date: ___/___/_____**
Position in organisation: _____Contact number:_____	
Approximate time (cumulative) providing guidance to the candidate _____days / hrs in Unit(s): _____ _____	
Responses made by supervisors/mentors are for the purpose of providing information to	

a workplace assessor. The supervisor is not making a decision about competence. The assessor will include the information with other data in the decision making process.			
Question asked of the supervisor/mentor	**Responses**		
Taking into consideration the candidate technical development and work experiences, can they:	**Yes**	**Requires further training**	**No**
Carry out duties with confidence			
Work in a safe manner with care for self and others			
Perform tasks with the minimal amount of waste or rework			
Complete tasks within a reasonable time			
Identify ways of improving how jobs are done			
Initiate action to improve processes or practices			
Work with others to achieve the work outputs of the group			
Work independently to achieve work outputs			
Resolve non-routine work functions			
Other comments:			
Supervisor's/Assessor's Signature: Date: / /			

Enclosure A7 — 'Supporting skills' report

Supporting skills refer to non-technical skills that candidates must demonstrate as part of their competency assessment. They include:

- the ability to work independently or in teams while dealing with customers
- knowledge of and ability to follow enterprise policies
- communication skills used in following and issuing instructions

- knowledge of and ability to address quality assurance requirements
- personal management and development skills
- knowledge of and ability to address environmental protection and sustainable energy policies issues.

Candidates must demonstrate these important attributes which are embedded in all competency standard units in the Training Package.
A supporting skills report may be completed by an assessor, the candidate's supervisor or another third party. Following is a brief description of the various aspects of supporting skills.

Supporting Skills — What do they cover?

1. Enterprise Instructions

Technical manuals
Using enterprise or manufacturers' technical manuals to ensure equipment and parts are installed to manufacturer's specifications.
Quality systems
Plan, apply and contribute to quality systems.
Computers systems
Use enterprise documentation and record systems including, where appropriate, data capture equipment such as computers, information systems and technologies.
Environmental and sustainable energy requirements
The safe disposal of used oil, grease and chemicals and the reduction of electrical energy by turning of the lights and heating devices and the like to minimise the impact that engineering practices have on the environment.
Occupational Health and Safety (OHS) requirements
Follow OHS and standard operating procedures in a manner that is safe to the individual and others.
Equal opportunity/Ethical practice/Cultural diversity
Be familiar with the enterprise, equal employment opportunity polices, ethical practices and principles and awareness of cultural diversity.

Enterprise vehicles
Complete vehicle log book details accurately, ensure the vehicle is kept clean, secured and fuel and liquid levels are maintained.

2. Customer relations

Public
Provide courteous and informative advice during construction, maintenance or service activities.
Workers providing other services
Cooperate with workers providing other construction, maintenance or service activities.
Clients and land owners
Recognise the responsibilities and rights of clients and land owners.
Authorities
Recognise the responsibilities and rights of statutory and other authorities.

3. Self development

Systematic problem solving
Solve problems by using technical literature, exploring theories, performing calculations and by making enquiries.
Personal wellbeing
Maintain and promote personal well being in the workplace through fitness and by avoiding excessive use of alcohol, tobacco and other substances.
Time management
Be punctual, complete work activities on time, and sequence activities to maximise the use of available time.
Professional development
Seek to improve technical ability by discussions with others or by technical research and on-going competency development.

4. Team work
Communications
Communicate plans, information, intentions and safety criteria to others' using appropriate means.
Team involvement
Contribute positively to the work-team environment.

Competency enhancement
Participate in the training of others by sharing ideas, explaining operating systems and detailing the working arrangements of components and equipment.

Instructions for completing the supporting skills report
The supporting skills report on the next page provides a means of recording information about a candidate's skills. A workplace assessor (or nominee) does this by referring to documentation, asking the candidate questions and/or seeking advice from the candidate's supervisor/mentor.
Complete the form in the following way.
Step 1

Place a cross (X) in the box to indicate areas from where evidence has been sourced.

Supporting Skills Report		
Candidate's name		**Date**
Supervisor's/Assessor's name		/ /
Enterprise instructions 1. Applies correctly without constantly making reference to them. 2. Refers to them regularly and applies information correctly. 3. Awareness of their existence but not referred to or used.		**Rating** **1** **2** **3**
Technical manuals	X	Identify a minimum of three.
Quality systems	X	
Computer systems	X	
Environmental requirements	X	

Step 2

Review documentation and/or ask questions of the learner or their mentor/ supervisor.

Step 3

For each area, establish the appropriate level (1, 2 or 3) that reflects the capability of the learner. Place a circle around the corresponding number. Evidence should be collected from a number of sources before rating the candidate.

Step 2
Review documentation and/or ask questions of the learner or their mentor/ supervisor.

Step 3
For each area, establish the appropriate level (1, 2 or 3) that reflects the capability of the learner. Place a circle around the corresponding number. Evidence should be collected from a number of sources before rating the candidate.

Note: A rating of 2 or 3 indicates further training or experience is required. A rating of 1 indicates the candidate has demonstrated their competence in this area.

Supporting Skills Report		
Candidate's name		Date
Supervisor's/Assessor's name		/ /
Enterprise instructions 1. Applies correctly without constantly making reference to them. 2. Refers to them regularly and applies information correctly. 3. Awareness of their existence but not referred to or used.	***Rating (circle #)*** **1** **2** **3**	
Technical manuals		Identify a minimum of three.
Quality systems		
Computer systems		
Environmental and sustainable energy requirements		
Occupational Health and Safety requirements		
Equal Opportunity/Ethical practice/Cultural diversity		
Enterprise vehicles		
Customer relations 1. Customers are included in discussion effecting operational issues 2. Knowledge of but limited application of customer relations. 3. Requires more understanding of customer needs.	***Rating*** **1** **2** **3**	

Public		Identify a minimum of two.
Workers providing other services		
Clients and land owners		
Authorities		
Self development 1. Desire to expand beyond the present job role. 2. Keeps abreast of new products and services. 3. Requires more understanding of the job role.	***Rating*** **1** **2** **3**	
Systematic problem solving		Identify a minimum of two.
Personal well being		
Time management		
Professional development		
Team Work 1. Shares ideas, assists and accepts assistance from others 2. Accepts ideas and assistance from others. 3. Prefers not to assist or accept assistance from others	***Rating*** **1** **2** **3**	
Communications		Identify a minimum of two.
Team involvement		
Competency enhancement		

Enclosure A8 — Questioning

It may be necessary as part of the assessment process, to gather additional evidence to clarify specific aspects of competence, especially in relation to the associated performance criteria. The RTO Assessor (or their nominee) may need to ask questions of the candidate, their supervisor or their trainer. A form is provided in this enclosure for documenting their responses.

The form provides guidelines for questioning a candidate about the Performance Criteria related to each element of competence. Typically, the elements in each of the competency standard units in this Training Package follow a similar structure. Principally they generally cover *planning for, carrying out* and *completing* the job function.

In this section of the document you will also find two tables which provide guidelines for assessing a candidate's response to these questions.

If the assessment is formative (as part of a training process) then the response given by the candidate should be consistent with the 'Appropriate coverage to questions -level 1'.
If the assessment is summative (final) the responses should be consistent with the 'Appropriate coverage to questions - level 2'.

Note to assessors:
1. As competency standard units are typically structured around PLAN ⇐ CARRY OUT ⇐ COMPLETE jobs in the workplace, the form for recording responses is generic.
2. Please make reasonable adjustments to the form as required to accommodate particular aspects of individual competency standard units.

Level 1 — Appropriate coverage of responses to questions

Element 1 – Planning for job/task functions (L1)

Issues about involvement of personnel, enterprises operational requirements and the requirements of regulators would not normally be expected.

Coverage should involve such things as:

OHS:

- Clarifying instructions given if any doubt exists as to what is required
- Checking with others involved if any personal protective equipment is needed
- Identifying hazards and risks associated with the wok, including any first aid and other similar requirements

Tools, equipment etc:

- Identifying the tools and equipment that are required
- Explaining where any special equipment is located and how arrangements will be made to have them available, if required.

The work schedule:

- Identifying the work and relevant processes, procedures and personnel required
- Identifying the process of work to be undertaken
- Identifying the work site activities and issues to be attended to
- Identifying the authorities associated with the work.
- Identifying any isolation procedures/permits that may apply.

Element 2 – Carrying out job/task functions (L1)

Coverage should involve such things as:

OHS:

- Keeping the immediate work area clear of debris
- Keeping tools clean and organised when not in use
- Keeping clear of such things as moving parts, live electrical conductors, hazards, and obstacles

- Wearing work clothes and personal protective equipment when required
- Performing the technical work required
- Applying the relevant knowledge and skills underpinning performance.

Tasks:

- Following instructions given by others
- Observing what is occurring, listening to explanations about why tasks are performed in certain ways and asking questions when required.

Element 3 – Completing job/task functions (L1)

Coverage should involve such things as:

- Cleaning tools and equipment
- Returning tools and equipment to their normal storage place.

Level 2 — Appropriate coverage of responses to questions

Element 1 – Planning for job/task functions (L2)

Coverage should involve, but not limited to, such things as:

OHS:

- Clarifying instructions given if any doubt exists as to what is required
- Arranging for any special personal protective equipment to be available
- Checking to see if the work site is accessible.

Personnel:

- Identifying other personnel involved in the work and coordinating proposed activities.

Regulatory requirements:

- Arranging for relevant work instructions and installation specifications to be available, if required
- Arranging work permits/isolation, etc.

Tools, equipment etc:

- Arranging the tools and equipment that are required
- Coordinating where any special equipment is located and how arrangements will be made to have them available, if required.

The work schedule:

- Confirming the plan and process of work to be undertaken
- Confirming the work and relevant processes, procedures and personnel required
- Confirming the work site activities and issues to be attended to
- Confirming the authorities associated with the work

Element 1 – Planning for job/task functions (L2)

- Confirming isolation or work permits authorities.

Element 2 – Carrying out job/task functions (L2)

Coverage should involve, but not limited to, such things as:

OHS:

- Keeping the immediate work area clear of debris
- Keeping tools clean and organised when not in use
- Keeping clear of such things as moving parts, live electrical conductors and obstacles
- Wearing work clothes and personal protective equipment when required
- Having barriers in place to exclude public access to the work place, as required
- Ensuring all personnel involved are alerted to work activities and communications are established and maintained
- Keeping alert to the working environment while watching for unexpected occurrences
- Confirming appropriate competence of first aid and persons, including other requirements such as confined space and the like, where appropriate.

Engineering tasks — specific actions should be included that are additional to the following:

- Performing tasks independently with reference to enterprise instructions
- Accept and act on initial advice and feedback provided by others
- Observing what is occurring, listening to explanations about why tasks are performed in certain ways and asking questions when required
- Applying essential knowledge and associated skills and providing solutions to 'what if' scenarios.

Technical assistance:

- Further reference to enterprise instructions
- Reference to the requirements of regulations, work instructions or other relevant standard
- Recall of theory or application
- Involvement of others with greater experience.

Element 3 – Completing job/task functions (L2)

Coverage should involve, but not limited to, such things as:

Performance checks:

- Checking that all guards & covers removed during the activities are replaced and adjusted

Element 3 – Completing job/task functions (L2)
• Check that all temporary arrangements required during the process work have been removed • Carrying out any tests required by regulation or work instructions • Operating the installed/repaired parts or system to ensure it functions as specified. **Notification:** • Informing all immediate personnel involved that the work is completed • Informing clients and others that the work is completed • Removing all signs and barriers, as necessary • Reporting any damaged tools and equipment and arrange replacement. **Paperwork:** • Completing store/inventory paperwork • Completing the work log or management reports precisely by recording what occurred and providing recommendations/solutions to be followed up in point form.

Instruction for recording responses to questions

Step 1
Identify the elements of competence on which questions will be asked.
Step 2
Identify if the response expected is to be typical of a candidate who is undergoing a formative assessment (level 1) or summative assessment (level 2). This may be different for each element involved.
Step 3
Ask the main question and indicate (Y or N) whether the candidate's response addresses the coverage required.
Step 4
Ask follow up questions to probe any areas not recorded as Y in Step 3. Record Y or N to the response given in the space provided.

From all the evidence presented a holistic judgement is then made.

Questions

Unit Title: **No.**		
Candidate's name: **Assessors name:**		
Main Question for the '*Planning*	**Expected Response Level**	**Not used**

Unit Title: **No.**						
Candidate's name: **Assessors name:**						
***Work*' Element** **What are the main things you would consider when planning and preparing for work?**	**(circle)**	**1**	**2**		**(tick)**	

Issues to be cover in response to the main question – and – follow up questions, if required	**Coverage (Y or N)**
What OHS issues do you consider?	
Who are the personnel you would involve?	
What enterprise requirements need to be taken into account?	
What regulatory requirements need to be taken into account?	
What tools, equipment and other items need to be arranged to do this job, where will you get them from and how will you arrange to have them made available when you need them?	
What work schedule will be followed?	

Main Question for the '*Carry-Out Work*' Element **What are the main things you will do to ensure the work you carry out is done productively?**	**Expected Response Level**				**Not used**	
	(circle)	**1**	**2**		**(tick)**	

Unit Title: **No.**	
Candidate's name: **Assessors name:**	
Issues to be cover in response to the main question – and — follow up questions, if required	**Coverage (Y or N)**
What are the main OHS practices and precautions that are specific to this work function?	
What are the main engineering tasks involved in this job?	
What would you do if the work you were undertaking became technically difficult and you could not complete it to requirements?	
What essential knowledge and associated skills would support a response to providing solutions to 'what if' scenarios?	

Unit Title: (Cont.) **No.**					
Candidate's name: **Assessors name:**					
Main Question for the '*Completing Work*' Element	**Expected Response Level**			**Not used**	
What are the main things you will do? What needs to be done to finalise the job?	**(circle)**	**1**	**2**	**(tick)**	

Unit Title: (Cont.) **No.**	
Candidate's name: **Assessors name:**	
Issues to be cover in response to the main question – and – follow up questions, if required	**Coverage (Y or N)**
What checks need to be made to insure the work you undertook meets specified performance requirements?	
Who do you notify that the work has been completed?	
What paperwork needs to be completed and what will you write about?	

Enclosure A9 — Practical Demonstration

As part of evidence provided to demonstrate competence against detailed competency standards, the assessor may need to observe the candidate demonstrating practical tasks. The Engineering Practical Skills Form is provided herein to help assessors record these work-based observations. The notes taken are analysed and from this a rating is given about the candidate's engineering skills.

Note to assessors:

- The form for recording responses is generic to all competency standard units.
- Make reasonable adjustments to the form as required to accommodate particular aspects of individual competency standard units.
- You may only need to observe candidates on particular (not all) Elements of Competence.
- If the assessment is formative (for feedback purposes), then the level of supervision that applies during work activities should apply during the assessment activity.

Instructions for completing the Engineering Practical Skills Form

The form provides a means of recording information about a learner's engineering practice. A workplace assessor (or nominee) does this by an observation of pre-arranged activities and determining an engineering skills rating.

Step 1

Enter the title of the competency standard unit and its Unit Number in the space provided.

Step 2

Enter the learner's name in the space provided.

Step 3

Enter the name of the person who is completing the form (this may be the assessor or someone who the assessor nominates to gather the information).

Step 4

Enter the date on which the evidence is gathered.

Step 5

Determine the elements of competence being observed (circle yes or no).

Step 6

Determine the level of supervision that is to apply to the elements being observed. Use the supervision — Level code from the bottom left of the form (A, B or C) and enter in the second column.

Step 7

Observe the learner perform tasks related to the element(s) being assessed, checking that they address the required Performance Criteria. Record in the first column of the table under the heading 'Notes from Observation' key points to indicate whether the learner:

- Has acted in a way that meets specifications required by manufacturers, regulations or client specifications
- Has followed established enterprise procedures
- Met the requirements of the Competency Standard being assessed
- Needed to be shown or told how to perform tasks beyond what is reasonably expected given his/her level of experience and therefore requires further training.

Step 8

Using the engineering skills rating codes at the bottom right of the table, enter the appropriate letter in the space provided to indicate the level of competence demonstrated in relation to the competency standard being assessed.

From all the evidence presented a holistic judgement is then made.

Engineering practical skills form

Competency standard unit title: _____ **Date:** _____/_____/_____

Candidate's name: _____ *Assessor's Name:* _____

Notes from observation	Supervision Enter A, B or C	Engineering Practice Enter D, E, F, G
Plan activities: Yes or No (circle to indicate if evidence is being gathered)		
Carry out activities: Yes or No (circle to indicate if evidence is being gathered)		
Complete activities: Yes or No (circle to indicate if evidence is being gathered)		

Supervision Level		Engineering Skills Rating	
A	The learner is working under direct supervision.	D	Met required specifications.
B	The learner is working under limited supervision	E	Followed established enterprise procedures.
C	The learner is working under general supervision with a high degree of autonomy	F	Met competency standard requirements
Learner's Signature …… Assessor's Signature ……		G	Further training required

Enclosure A10 — Final/Challenge Test

A test may be required if the assessment process does not provide:

- sufficient, authentic or current evidence
- particular aspects of evidence related to equipment operation
- particular aspects related to safety
- all the requirements related to the influence of external bodies such as regulatory authorities.

A final test should:

- cover the conditions associated with the 'Critical Aspects of Evidence' statement in competency standard units
- take into account the principles of assessment and be sufficiently rigorous
- be consistent with the policies and practices of the Registered Training Organisation who is providing the recognition.

Enclosure A11 — Contracted Entry Level Profiling Model

In relation to the industry-preferred assessment model for contract entry-level competency development programs (New Apprenticeships), longitudinal approaches to assessment activities are considered more efficient and effective. This is best achieved by implementing a process where the learner frequently gathers reliable data from the workplace has it verified in a form that can be easily used and consistently interpreted.

One option is to use a machine-readable data scan card or direct web entry process, operating in conjunction with a sophisticated computer software program to achieve this result. The design of the system known as Profiling reflects the key requirements outlined in the relevant competency standard units making up the competency development plan/program. Learners report directly on their exposure to required work experiences in a structured way. Additional to the off-the-job technical training required for contracted entry level learners Profiling gathers specific workplace information reliably and systematically.

Data gathered frequently from the workplace accumulates over the competency development period and is reported graphically at given periods. This approach encourages self review and participation in the system and eliminates bias and minimises the effects of low levels of literacy (see over the page for an example).

The information gathered under Profiling, forms one component of a two part, in some cases three part, Training Program that supports competency development in a way preferred by the industry. The components are:

off-the-job training (technical subjects/topics), and
on-the-job training (workplace activities), and
a specific final 'safety systems (capstone)' test, where applicable.

Typically the off-the-job component requires the successful completion of technical subjects/topics of training against essential knowledge and associated skills (EKAS) clauses included in the respective competency standard units. More often than not the EKAS are aligned to EKAS learning specifications that expand on the essential knowledge and associated skills clauses; providing more detailed information on depth and breadth of learning required, for RTOs. The on-the-job component requires a profile to develop from workplace experiences/exposures. Finally, a specific safety assessment test is conducted, where applicable, for regulatory and industry requirements.

In relation to the on-the-job workplace data (experiences/exposures) is gathered and reported on against the respective aspects of industry determined competency standards, using predefined industry norms. Typically the information gathered pertains to the:

- activity against each element of competency and indirect information against the performance criteria
- quality, breadth and range of equipment, processes, techniques and applications experienced and worked with/on in the workplace
- level of supervision of a learner's workplace experiences
- hours of exposure (recording hours only is not generally considered Profiling).

Entry against the prescribed criteria is completed regularly (eg weekly) by the learner, the software program calculates the data against industry predefined norms and regular reports are produced (typically quarterly) for the use and information of RTOs, employers and the learner. Assessors use this information in a holistic way to identify and analyse trends and anomalies against the predefined industry norms.
The advantage of Profiling over many other mediums such as manually based log-books which require extensive and laborious analysis is that it is simple and directly reflective of the workplace experiences undertaken at the time. It provides evidence for:

- managing workplace skill development/ performance of competency required to produce quality work
- progressive assessment and supporting the attainment of a national qualification
- the attainment of an electrical workers' licence/regulated registrations, where appropriate
- the need for job rotation
- allocating work
- RTOs — thus reducing the demand for an array of workplace assessors.

To gain an appreciation of what a data card and a report may look like a sample of each is included below.

Sample Data Card

Certificate III Electrotechnology Systems Electrician

Week Number

Profiling Registration No. | Apprentice Surname | Apprentice Signature

SAMPLE ONLY

This week I :

		Install support / protection	Install/terminate LV cables	Install Network comms cables	Test Apparatus / circuits	Install apparatus	Commission apparatus / circuits	Diagnose / rectify faults app/circuits	Maintain apparatus / circuits	Install explosion protected equip	Maintain hazardous area equip	Monitor energy usage	Install / maintain fluid m'rment equip	Electrical supporting activities	Off-job training attended (eg college)	Sick	Leave / RDO etc.	PASSED one module	PASSED half module
worked in the these areas		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
for approximately (Choose multiple combinations of hours)	up to 2 hrs	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	4 hours	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	8 hours	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	16 hours	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	32 hours	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
and I (Choose one or more)	planned (ie interpreted diag etc.)	○	○	○	○	○	○	○	○	○	○	○	○						
	carried out (ie conducted work)	○	○	○	○	○	○	○	○	○	○	○	○						
	completed (ie compliance etc.)	○	○	○	○	○	○	○	○	○	○	○	○						
whilst under (Choose one or more)	direct/constant supervision	○	○	○	○	○	○	○	○	○	○	○	○						
	general/intermittant supervision	○	○	○	○	○	○	○	○	○	○	○	○						
	broad supervision	○	○	○	○	○	○	○	○	○	○	○	○						

Hours

Cable/wiring support protection

- ○ aerial
- ○ cable tray/ladder
- ○ catenary support
- ○ metallic conduit
- ○ non-metallic conduit
- ○ trunking
- ○ underground systems
- ○ unenclosed support (eg.clips,saddles,ties)
- ○ other

Power and control - LV cables

- ○ armoured cables
- ○ fire performance cables (eg. MIMS)
- ○ signal cable (eg. shielded inst cable)
- ○ special cables (eg. trailing cables)
- ○ thermplastic insulated cable
- ○ thermoplastic sheathed flat cable
- ○ thermplastic sheathed circular cable
- ○ other

Network communications cables

- ○ coaxial
- ○ optical fibre
- ○ structured (cat5/5+)
- ○ patchcords
- ○ telephone (cat3/4)
- ○ other

Apparatus

- ○ control devices
- ○ heating
- ○ lighting
- ○ protection devices
- ○ socket outlets
- ○ switchboards
- ○ DC motors & controls
- ○ single phase motors & controls
- ○ synchronous motors & controls
- ○ three phase motors & controls
- ○ other

Mandatory testing

- ○ continuity
- ○ insulation
- ○ polarity
- ○ correct connections (eg. switching as intended)
- ○ isolation

Other testing

- ○ loop impedance
- ○ calibration
- ○ leakage
- ○ load current
- ○ performance characteristics
- ○ other

Supporting work included :

- ○ follow safety procedures
- ○ use information systems
- ○ protect the environment
- ○ document activities

Tradesperson's signature verifies that the work was performed to an acceptable standard within an acceptable timeframe given the experience of the apprentice

Electrical Licence No: | Tradesperson's Surname | Tradesperson's Signature

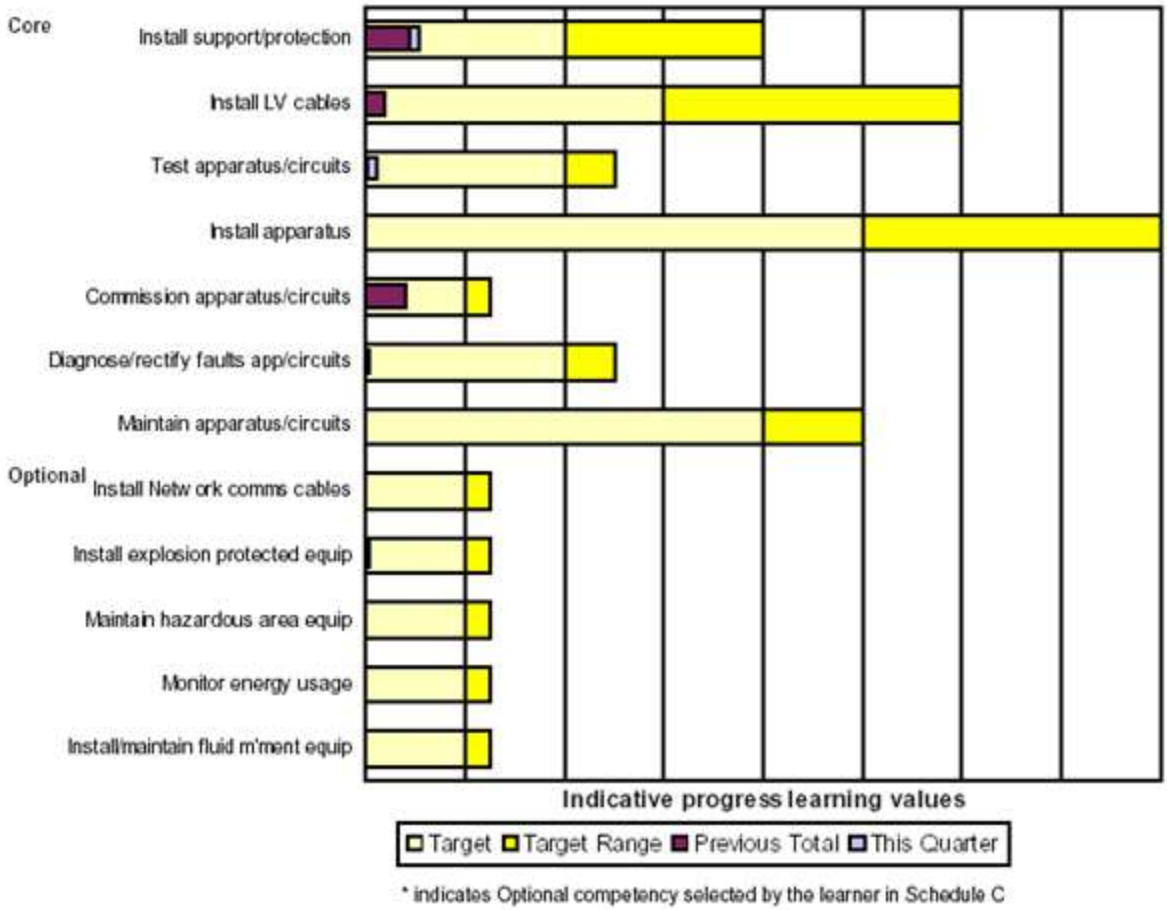
*NB. **Both** the Tradesperson's signature and Licence Number on the bottom of the card are **mandatory** - your signature means that you are simply checking that the work listed has been done. You are **not** assessing competency. There is no greater responsibility/obligation placed on the Tradesperson signing this card than there is currently under the Apprenticeship Act*

Sample Profiling Report

First Zzsample (999999)

Apprentice On Job Experience Profile - Progressive and Benchmarks Points

Systems Electrician - Quarterly Report, May 2002



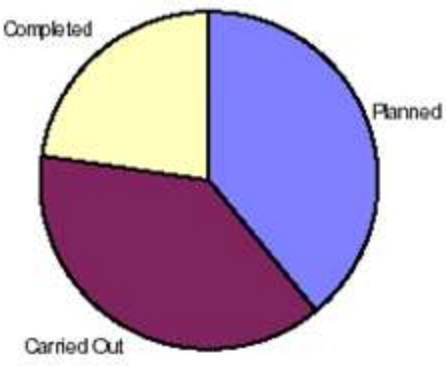
* indicates Optional competency selected by the learner in Schedule C

Apprentice Signature ..... Date .....

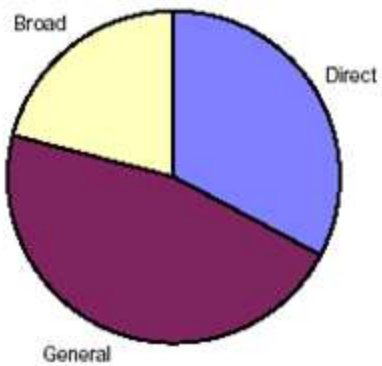
Employer Signature ..... Date .....

Host Signature (if applicable) ..... Date .....

Apprentice role



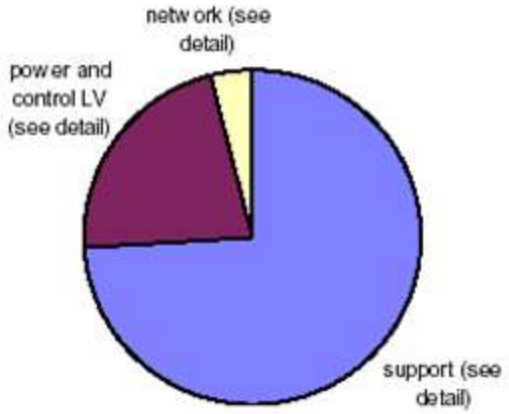
Supervision level



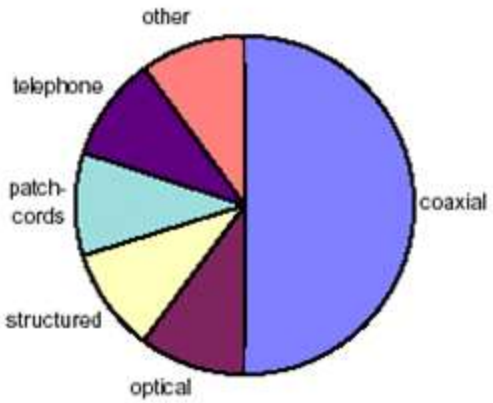
Sample Profiling Report (cont.)

First Zzsample (999999)

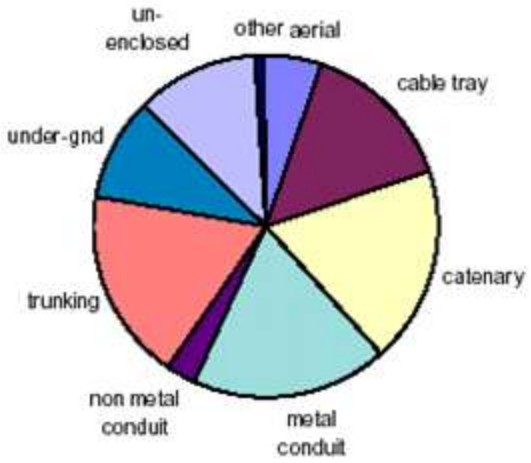
Electrical wiring system type



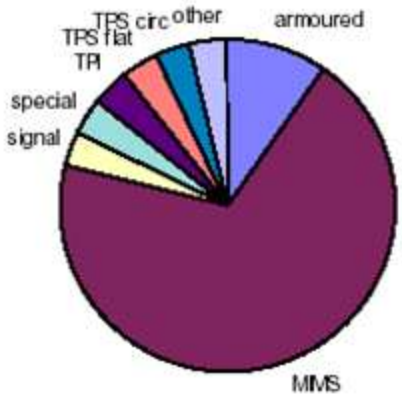
Electrical wiring detail: Network communications



Electrical wiring detail: Support and protection



Electrical wiring detail: Power & control - LV



Testing techniques used

1.3.18 Appendix B - Enclosure B: Administrative Forms

Appendix B — Enclosure B: Administrative Forms

Enclosure B1 Notification of Workplace Assessment
Enclosure B2 Application for Recognition of Prior Learning/ Current Competence
Enclosure B3 Assessee Comment/Feedback
Enclosure B4 Candidates Competency Achievement Report to a RTO

Enclosure B1 — Notification of Workplace Assessment
This form is used to notify a learner about their assessment. The learner is advised of the type of evidence being sought, the competency standard unit(s) of competence being considered, who will be involved and the time and place of the activity.

Enclosure B2 — Application for Recognition of Prior Learning/ Current Competence
Candidates should use this form to apply for recognition. The applicant needs to provide their personal details, the competency standard unit(s) for which they seek recognition, the type of evidence being provided and the names of referees.

Enclosure B3 — Assessee Comment/Feedback
This form is used by the learner (or RPL applicant) to make comments about the workplace assessment process and/or decision. It should be distributed prior to an assessment event being conducted. The workplace assessor should be sent a copy of each form completed and should retain completed forms in case of any future review and/or inquiry.

Enclosure B4 — Candidate's Competency Achievement Report to an RTO
This form summaries a workplace assessment process and allows workplace assessors to make recommendations to an RTO about deeming competence of a learner or RPL applicant.

Enclosure B1 — Notification of a Workplace Assessment
Learner's Name: _____ **Date of notification:** / /
Assessor's Name: _____ Tel: _____
Qualification Title: _____

The workplace assessment will be carried out on the following Competency Standard Units		**For the following reason (tick)**	
Unit No.	**Unit Title**	**Advice**	**Completion**

Location _____ Date: / / Time: _____

Information has already been gathered from or is to be gathered from the following sources indicated below.

No	Source of Information		Already Gathered (tick)	To be Gathered (tick
1	**Work Activity Records** — experiences mostly relate to re-occurring workplace events.	Paper Based		
		Electronic		

2	**Technical Results** (i.e. modules) — part of the program that develops your technical knowledge and skill		
3	**Portfolio** — personal and academic detail, employment and work achievements, references and the like		
4	**Self Analysis** – provides guidance on the type of evidence required and guides reference to other information		
5	**Item Range** — list of components, tools, systems, plant, test equipment, etc on which experience is gained		
6	**Supervisor's Report** — general comments about applying technical skills, being safe and productive		
7	**Soft Skills Report** — your ability to follow instructions, deal with clients and work in teams		
8	**Questioning** — covers issues related to your performance when planning, carrying out and completing work		
9	**Practical Demonstration** — a demonstration of your ability to perform tasks in a actual or simulated situation		
10	**Final Test** – evidence related to critical aspects of what is required by you to demonstrate competence		
11	**Other** (list)		

Note: Once all the information is collected and the data analysed the results about your progress towards or achievement of competence will be forwarded to you for your comments. If you require any additional information you should contact the assessor (above telephone number) or your nominated supervisor/mentor.

Name_____ **Signature** _____

Enclosure B2 — Application for Recognition of Prior Learning/ Current Competence

Name: _____ Date of Birth: / /

Address: _____

Telephone: _____Mobile _____e-mail_____
Recognition Sought _____
Training Package _____
Qualification No. and Title _____

Competency Standard Units (Candidate to List)

Unit Title	Unit No.

Evidence Provided

Type	Tick if Attached
Certificates	
Curriculum Vitae	
Transcript of Academic Record – modules completed/equivalent	
References	
(other)	

Referees

Name	Organisation and Title of Referees	Contact Number of Referees

Candidate's Signature: _____ Date: / /

Enclosure B3 — Assessee Comment/Feedback

To be completed by the candidate following an assessment event.

Location: _____Date: ____/____/____Time: _____

Assessor's Name: _____

Please complete the following and return it to the Assessor.

Candidates' Name: _____
Contact N°: _____

I have read the Final Report for this assessment event and,
(**tick**)
Agree with the outcome
or
Disagree with the outcome

Comments:

_____

_____

_____

_____

_____

_____

_____

Candidate's Signature: _____ **Date:** _____/_____/_____

Enclosure B4 — Candidate's Competency Achievement Report to RTO
This recommendation is made to (enter RTO name) _____
It is recommended that (learner's name) _____ (contact and identification details) _____
_____ be attributed competence in the following Competency Standard Units.
These units are from the Qualification (Title and No.)
_____

Unit No.	Competency Standard Unit Title	Assessor's initials

The recommendation was made based on analysed evidence taken from the following sources	**Tick**
Work Activity Records	
Module (Learning Specification) Results	
Portfolio	
Self Analysis	
Item Range – Learner's Report	
Supervisor's Report	
Soft Skills Report	
Questioning	
Practical Demonstration	
Final Test	
Other (enter)	

Statement
The recommendation to attribute competence to the above-mentioned individual is based on the evidence requirements outlined in competency standard units from the _____ (Enter the Number and Title of the Training Package.)
Assessor's Name _____
Signature _____ **Date:** / /

1.3.19 Appendix B - Enclosure C: Glossary of Terms

Appendix B — Enclosure C: Glossary of Terms

Definitions of all terms used in assessment design materials are below.

Term	**Definition/Explanation**
Appeal process	A process whereby the person being assessed or other interested party, such as an employer, may dispute the outcome of an assessment and seek reassessment.

Term	Definition/Explanation
Assessment	The process of collecting evidence and making judgements on whether competency has been achieved to confirm that an individual can perform to the standard expected in the workplace as expressed in the relevant endorsed industry/enterprise competency standards or outcomes of accredited courses.
Assessment context	The environment in which the assessment will be carried out. This will include physical and operational factors, the assessment system within which assessment is carried out, opportunities for gathering evidence in a number of situations, the purpose of the assessment, who carries out the assessment and the period of time during which it takes place.
Assessment guidelines	Assessment guidelines are the endorsed component of a Training Package which underpins assessment and which sets out the industry approach to valid, reliable, flexible and fair assessment. Assessment guidelines include the assessment system overview, assessor requirements, designing assessment resources, conducting assessment and sources of information on assessment.
Assessment judgement	Assessment judgement involves the assessor evaluating whether the evidence gathered is valid and authentic, and whether there is sufficient and reliable evidence to make the assessment decision. The assessment judgement will involve the assessor in using professional judgement in evaluating the evidence available.
Assessment materials	Assessment materials are any resources that assist in any part of the assessment process. They may include information for the candidate, assessment tools or resources for the quality assurance arrangements of the assessment system.
Assessment plan	An assessment plan is a document developed by an assessor that includes the elements and competency standard units to be assessed, when the assessment will occur, how the assessment will occur, the assessment methods to be used and the criteria for the assessment decision.

Term	Definition/Explanation
Assessment process	The assessment process is the agreed series of steps that the candidate undertakes within the enrolment, assessment, recording and reporting cycle. The process must suit the needs of all stakeholders and be both efficient and cost-effective. The agreed assessment process is often expressed as a flow chart.
Assessment strategy	Assessment strategy means the approach to assessment and evidence gathering used by the assessor or RTO. It encompasses the assessment process, methods and assessment tools.
Assessment system	An assessment system is a controlled and ordered process designed to ensure that assessment decisions made in relation to many individuals, by many assessors, in many situations are consistent, fair, valid and reliable.
Assessment tool	An assessment tool contains both the instrument and the instructions for gathering and interpreting evidence: • Instrument[s] — the specific questions or activity developed from the selected assessment method[s] to be used for the assessment. A profile of acceptable performance and the decision making rules for the assessor may also be included. • Procedures — the information/instructions given to the candidate and/or the assessor regarding conditions under which the assessment should be conducted and recorded.
Candidate	A candidate is any person presenting for assessment. The candidate may be: • a learner undertaking training in an institutional setting • a learner/worker undertaking training in a workplace • an experienced worker wanting their skills recognised • any combination of the above.
Competency	The specification of knowledge and skill and the application of that knowledge and skill to the standards of performance required in the workplace.
Competency	Competency standards define the competencies required for

Term	Definition/Explanation
standard	effective performance in the workplace. Standards are expressed in outcome terms and have a standard format comprising of Unit title, Unit descriptor, Elements of Competency, Performance Criteria, Range Statement and Evidence Guide. See also *Unit[s] of Competency*.
Competency standard unit	Also see Unit of Competency
Critical aspects of competency	A statement in a Unit of Competency that provides clear meaning as to what is to be achieved in the assessment process.
Currency of evidence	Evidence that is relevant to what is outlined in competency units and not outdated or irrelevant.
Dimensions of competency	The concept of competency includes all aspects of work performance and not only narrow task skills. The four components of competency are: • task skills • task management skills • contingency management skills • job/role environment skills.
Electronic Profiling	An innovative electronic based logbook system used by apprentices to record, and report on their workplace activities. A specially designed data entry card is used to capture work experiences (eg weekly) against industry approved competency standards and reported against industry-defined benchmarks. *See* Section 3.5 Assessment Processes within the Electrotechnology Industry and section Appendix B — Enclosure A11 Contracted entry level Profiling Model.
Element of Competency	The basic building block of the competency standard unit. Elements describe the tasks that make up the broader function or job described by the unit.

Term	Definition/Explanation
Essential Knowledge and Associated Skills clauses	EKAS clauses provide the content specifications that must be achieved by learners in terms of the body of essential knowledge and associated skills.
Essential Knowledge and Associated Skills learning specification	EKAS learning specification is specific learning content that is complete in itself and expands on the competency standard units EKAS clauses in terms of depth and breath. It may underpin many, few or one competency standard unit(s). It covers one or more aspects of knowledge and skills. An EKAS LS can be separately delivered and assessed with percentage achievement reporting, and may be linked with other EKAS LSs for delivery purposes in the same discipline area.
Evidence/ quality evidence	Evidence is information gathered which, when matched against the performance criteria, provides proof of competency. Evidence can take many forms and be gathered from a number of sources. Assessors often categorise evidence in different ways for example: • direct, indirect and supplementary sources of evidence • evidence collected by the candidate or evidence collected by the assessor • historical and recent evidence collected by the candidate and current evidence collected by the assessor. Quality evidence is valid, authentic, sufficient and current. It enables the assessor to make the assessment judgement.
Evidence gathering techniques	Evidence gathering technique means the particular technique or method used to gather different types of evidence. This may include methods or techniques such as questioning, observation, third party reports, interviews, simulations and portfolios.
Evidence Guide	Evidence Guide is part of a competency standard unit. Its purpose is to guide assessment of the unit in the workplace and/or a training environment. The Evidence Guide specifies the context of assessment, the critical aspects of evidence and the required or underpinning knowledge and skills. The Evidence Guide relates directly to the Performance Criteria and Range Statement defined in the competency standard unit.

Term	Definition/Explanation
Fairness	See section 3.4 Assessment Principles
Flexibility	See section 3.4 Assessment Principles
Holistic/ integrated assessment	An approach to assessment that covers the clustering of multiple units/elements from relevant competency standards. This approach focuses on the assessment of a 'whole of job' role or function that draws on a number of units/elements of competence. This assessment approach also integrates the assessment of the application of knowledge, technical skills, problem solving and demonstration of attitudes and ethics.
Industry Skills Council/Industry Training Advisory Bodies (ITABs)	National bodies comprising representation from the industry parties responsible for the development, review, implementation, and providing advice on qualifications scopes and competency standards in given industries.
Module	A specific learning segment that is complete in itself. It deals with one or more aspects of knowledge and skills. A module is separately delivered and assessed and may be linked with other modules in the same study area and aligned to a competency standard unit(s).
New Apprenticeship Centre	An organisation who provides information on apprenticeships, traineeships and the related qualifications and processes.
Portfolio	See section 3.5 Assessment Processes in the Electrotechnology Industry.
Profiling	See section 3.5 Assessment Processes in the Electrotechnology Industry.
Performance Criteria	Evaluative statements which specify what is to be assessed and the required level of performance. The Performance Criteria specify the activities, skills, knowledge and understanding that provides

Term	Definition/Explanation
	evidence of competent performance for each Element Of Competency.
Qualification	Qualification means, in the vocational education and training sector, the formal certification, issued by a Registered Training Organisation under the Australian Qualifications Framework, that a person has achieved all the requirements for a qualification as specified in an endorsed Training Package or in an Australian Qualifications Framework accredited course where no relevant Training Package exists.
Range Statement	Part of a competency standard, which sets out a range of contexts in which performance can take place. The range helps the assessor to identify the specific industry or enterprise application of the competency standard unit.
Reasonable adjustment	The nature and range of adjustment to an assessment tool or assessment method which will ensure valid and reliable assessment decisions but also meet the characteristics and background of the person(s) being assessed.
Recognition **[Recognition of Prior Learning, Recognition of Current Competency and Skills Recognition]**	Recognition is a term that covers Recognition of Prior Learning, Recognition of Current Competency and Skills Recognition. All terms refer to recognition of competencies currently held, regardless of how, when or where the learning occurred. Under the Australian Recognition Framework, competencies may be attained in a number of ways. This includes through any combination of formal or informal training and education, work experience or general life experience. In order to grant recognition of prior learning/current competency the assessor must be confident that the candidate can present evidence that he or she is currently competent against the endorsed industry or enterprise competency standards or outcomes specified in Australian Recognition Framework accredited courses. The evidence may take a variety of forms and could include certification, references from past employers, testimonials from clients and work samples. The assessor must ensure that the evidence is authentic, valid, reliable, current and sufficient.
Records of	The information of assessment outcomes that is retained by the

Term	Definition/Explanation
assessment	Organisation that is responsible for issuing the nationally recognised Statement of Attainment or qualification.
Registered Training Organisation (RTO)	Registered Training Organisation (RTO) means a training organisation registered in accordance with the Australian Recognition Framework, within a defined scope of registration (refer definition Scope of Registration).
Reliability	See section 3.4 Assessment Principles
Sampling	See section 3.5 Assessment Processes in the Electrotechnology Industry.
Statement of Attainment	Statement of Attainment means a record of learning, recognised under the AQF, which although falling short of an AQF qualification, may contribute towards a qualification outcome, either as attainment of competencies within a Training Package, partial completion of an AQF accredited course leading to a qualification, or completion of a nationally accredited short course which may accumulate towards a qualification through Recognition of Prior Learning processes.
Sufficiency of evidence	See section 3.4 Assessment Judgments
Training Package	Training Package means an integrated set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework qualifications for a specific industry, industry sector or enterprise.
Training Agreement	An agreement outlining the training and assessment which forms part of a New Apprenticeship Training Contract and is registered with the relevant State or Territory Training Authority.
Training Plan	Training Plan means a program of training and assessment which forms part of a New Apprenticeship/traineeship Training Contract and is registered with the relevant State or Territory Training

Term	Definition/Explanation
	Authority.
Transcript of results — statement	List of candidate's modules/subjects/ EKAS learning specifications completed as part of a competency standard unit(s) or qualification.
Unit(s) of Competency / Competency standard units	Competency standard unit means the specification of knowledge and skill and the application of that knowledge and skill to the standard of performance required in the workplace. Competency Standard Units define the outcomes for training delivery and assessment and lead to the issuing of Australian Qualifications Framework qualifications and Statements of Attainment. See also *Competency Standard*.
Validity	See section 3.4 Assessment Principles
Validation	Validation involves reviewing, comparing and evaluating assessment processes, tools and evidence contributing to judgements made by a range of assessors against the same standards. Validation strategies may be internal processes with stakeholder involvement or external validations with other providers and/or stakeholders.

2.1 Preliminary Information & Glossaries

Volume 2 Part 1

Preliminary Information

This Volume (Vol 2 Part 1) contains the Definitions/Glossary of Gas Terms — a major section of the Gas Industry Training Package which is to be used in conjunction with the competency standard units. Section 7 of each competency standard unit lists a range of variables — the Range Statement. These, as well as other Gas Supply Industry terms, are explained in the Glossary of Gas Supply Industry Terms. In addition, the National Occupational Health and Safety Commission Glossary of Terms has been included. Users will find definitions here that clarify any Occupational Health and Safety specific terms. Where a term in the glossary is followed by a number, eg *Tools and equipment (2)*, the number indicates the AQF level.
Volume 2, Part 2 contains competency standard units and the Essential Knowledge and Associated Skills (EKAS). Each competency standard unit has a reference to the relevant Knowledge and Associated Skills, which are detailed separately from the competency standard units. This is designed to make the package easier to interpret and apply. In the Essential Knowledge and Associated Skills section of each unit there is reference to the relevant EKAS, identified by a unique clause number and title. This separate Essential Knowledge and Associated Skills forms an integral part of each competency standard unit, and all assessment evidence activities and reporting processes are to incorporate this specification.

Training Package Layout

This revised Gas Industry Training Package has been developed, reviewed and validated through extensive industry consultation. It reflects the views of a wide cross-section of the industry and its key stakeholders/practitioners throughout Australia.
The Training Package has been constructed as a two volume set. Volume 1 covers the overall Package framework and completion requirements for qualifications. Volume 2 includes the content details of parts and sub-sections of Volume 1. The two volumes form an integrated whole and are not to be used independently of each other.
Volume 1

Preliminary Information

The Gas Industry Training Package
Current Membership of the Gas Industry Training Group

The Gas Industry
Part 1 Qualifications Framework
Part 2 Competency Standards Overview and Index
Part 3 Assessment Guidelines
Appendix A — New Apprenticeships
Appendix B — Sample Assessment Instruments
Enclosures

- Enclosure A: List of Sample Assessment Instruments
- Enclosure B: Administrative Forms
- Enclosure C: Glossary of Terms

Volume 2

Preliminary Information
Part 1 Definitions/Glossary
Part 2 Competency Standards
2.1 Competency Standard Units

2.1.0 Independent Units
2.1.1 Cross Discipline Common Units
2.1.2 Distribution Discipline
2.1.3 Transmission Discipline
2.1.4 Cathodic Protection Discipline
2.1.5 Control Centre Discipline
2.1.6 Liquefied Petroleum Gas (LPG) Discipline
2.1.7 Support Services Discipline
2.1.8 Pressure Control Discipline
2.1.9 Imported Units

2.2 Essential Knowledge and Associated Skills

Table 1 — Knowledge and Associated Skills —Reference Codes and Reference Names

Table 2 — Essential Knowledge and Skills to Unit Matrix
Part 3 Language, Literacy and Numeracy

Volume 1: Structure and Overview

Part 1 – Qualification Framework

Part 1 outlines how the qualifications are structured, along with scope/descriptions, composition and content. Completion and issuance requirements are provided as well as advice on flexibility arrangements, with entry and exit pathways and articulation arrangements. Titles and codes of the respective list of qualifications to be issued are also included.

Part 2 – Competency Standards Overview and Index

Part 2 outlines how the competency standards were developed (in broad terms), the industry coverage they apply to, as well as the format and construction of the individual competency standard units. The list of competency standard units and their scope/description is included in this part. Matters related to language, literacy and numeracy, access, equity and cultural diversity, and any regulatory arrangements, for which the competency standard units may apply is also included. Importantly, each Unit is interrelated and linked with the Definitions/Glossary and Essential Knowledge and Associated Skills sections of the Volume. No competency standard unit is to be used in isolation or exported without these interrelated components.
There are over 125 competency standard units included in Volume 2, each listed according to its respective industry discipline area.

Alignment to and incorporation of Competency Standards Units from the allied Transmission, Distribution and Rail Training Package are also included as are relationships between competency standard unit(s) and the key competencies and skills for employers.

Part 3 – Assessment Guidelines

Information in Part 3 outlines how the assessment guidelines inform a Registered Training Organisation (RTO) about the infrastructure requirements to enable them to carry out training delivery assessment activities related to the Training Package. It includes such things as assessment systems, the role of RTOs, assessment pathways, recognition arrangements, assessor qualifications and sources of information.
Included also are two Appendices — Appendix A: New Apprenticeships Application and Appendix B: Sample Assessment Instruments. Appendix B contains Enclosures A, B and C: A — a List of Sample Assessment Instruments, B — Administrative Forms and C — the Glossary of Terms.

Volume 2: Competency Standard Units — Content and scope

Volume 2 Part 1 contains a Definitions/Glossary, which provides a description/explanation of certain/assigned words that appear in this document.
Volume 2 Part 2 contains the competency standard units in their respective disciplines, eg Transmission Units, Distribution Units, Operation Units, Cathodic Protection Units.
Volume 2 Part 2 also contains the details of Essential Knowledge and Associated Skills referred to in each Competency Standard Unit.
Volume 2 Part 3 provided information on the application of Language Literacy and Numeracy aspects identified with each Competency Standard Unit.
Note: The two volumes form an integrated whole and must not be used independently of each other.

1.0 Definitions/Glossary

1.1 Scope

The competency standard unit described in this Part of the Training Package covers competency standard units for the Gas Industry.

1.2 Application

The information contained in each competency standard unit includes the intended use of the unit for assessment and a training program(s).

1.3 References

Regulations

The work functions described by competency standard units in this Training Package may be subject to statutory regulations. Where this is the case the particular regulations will depend on local jurisdictions and knowledge and application of such regulations within the scope of the unit will be an aspect of evidence in deeming a person competent.

Reference documents

Each part of the Training Package will include a list of reference documents. These are a component of competency which assist in developing training programs and assessing competency. Reference documents include relevant legislation, regulation, industrial instruments, codes of practice, guidelines and advisory standards and policies.
Examples may include industry-preferred training and assessment models, anti-discrimination and equal employment opportunity statutes encompassing application of access, equity and cultural diversity principles associated with under-represented groups.

1.4 Definitions/Glossary

The definition of terms used in this Part of the Training Package form an integral part of the overall competency standard units and they must be used with Volume 2, Part 2.
Definitions of Gas Industry Terms

Term	Definition/Explanation
Abnormalities	To confirm any abnormal condition of an item whether or not this could eventually result in a failure.
Accessory	A component of a pipeline other than pipe, valve or fitting, but including a relief device, pressure containing item, hanger, support and every other item necessary to make the pipeline operable.
Acquisition and allocation of resources	Identified priorities, suitability, type of physical resource, urgency, cost of use, accessibility, endurance, maintenance demands, deployment time, customer needs, hazard and risk analysis.
Activities	May include product receipt, processing and/or dispatch; rectification of gas system faults; scheduling of maintenance, repairs and/or modifications; commissioning of new plant and/or equipment; standard operating and quality assurance procedures; stock control.

Term	Definition/Explanation
Analyse	To examine and investigate data / information.
Applicable Australian Standards/Legislation	Relevant to CP System may include OHS legislation; utility codes and standards; safe working procedures and practices; AS 2885; AS 2430 — hazardous areas; AS 1768; AS 1596; AS 1697; AS 2832.1; AS 3000; AS 2239; AG 603.
Appropriate and relevant persons	Organisation employees, contractors, consultants, maintenance persons, appropriately experienced and qualified persons, drivers, cleaners, grounds and site security persons, other managers, other supervisors, inter-company departments, other utilities, council representatives, producers, transporters/shippers, consultants, government bodies/agencies, refinery persons, customers, land owners.
Appropriate authorities	May include local councils; road authority; sewage and stormwater authorities; providers of service such as electricity, water and telephones.
Appropriate parts	To be replaced may include excess flow valves; relief valves; pressure regulators/springs; pump seals/compressor seals; pressure gauges; bypass valves; meters; solenoids; valves; break away couplings; meter heads.
Appropriate persons (1)	May include site manager; maintenance persons; shift supervisor.
Appropriate persons (2)	May include site manager; maintenance persons; shift supervisor. For LPG it could

Term	Definition/Explanation
	also include site manager; clerical persons; supervisors; other road tanker operators.
Appropriate persons (3)	May include site manager; maintenance persons; project manager; engineers and technical officers; security persons; maintenance persons; contractors; company persons; other persons designated by the organisation.
Appropriate persons (5)	May include appropriately experienced and qualified persons; company employees; contractors; drivers; maintenance persons; cleaners, ground and site security persons.
Appropriate persons (6)	Organisation employees; maintenance persons; appropriately experienced and qualified persons; site security persons, contractors and their employees, inspectors and regulatory authority representatives.
Areas of responsibility	Includes emergency management; resource management; field response; communications; media liaison; emergency services liaison, asset owners and relevant stakeholders; security supply; product containment; product specification; public safety; exclusion zones; business continuity; reporting and logging documentation.
Areas to be monitored	Includes gas infrastructure, site security, rate of change, supply and demand line pack response, communication and data transfer, process values and constraints (gas quality, pressure and temperature), field work activities, third party activities, permit systems, location of field staff, gas flows, information gathering systems, job and equipment status including tagging and

Term	Definition/Explanation
	equipment out of service.
Areas to be controlled	Includes gas infrastructure, site security, rate of change, supply and demand line pack response, communication and data transfer, process values and constraints (gas quality, pressure and temperature), field work activities, third party activities, permit systems, location of field staff, gas flows, information gathering systems, job and equipment status including tagging and equipment out of service.
Ariel	Includes helicopter, fixed wing.
Ariel hazards	Includes weather, birds, other aircraft and power lines.
Aspects to consider when sequencing a route	When sequencing a route for an individual include distance; weather conditions; terrain; time available; urban/rural area; experience of meter reader.
AQF	Australian Qualifications Framework which describes qualifications in terms of levels characterised by the outcomes of vocational education and training.
Assemble	To take raw stock and make detailed parts by a variety of methods, such as cutting, bending, attaching, etc. It may be applied to metal and composite structures, electrical parts etc.
Assessing risk	Determining the likelihood and severity of adverse consequences from hazards; Occupational Health and Safety audits;

Term	Definition/Explanation
	workplace inspections; maintenance of plant and equipment; purchasing of materials and equipment; planning or implementing alterations to site, operations or work systems; and analysis of relevant records and reports, for example, injuries and incidents, hazardous substances inventories/registers, audit and environmental monitoring reports and Occupational Health and Safety committee records. Includes hazard and incident reports; workplace inspection in area of responsibility; consulting work team members; housekeeping; workplace inspections; daily informal team consultation and regular formal team meetings; internal and external audits; industry information such as journal, newsletters and networking.
Assessment	Refers to the process of collecting evidence and making judgements on the extent and nature of progress towards the performance requirements set out in a standard and at the appropriate point making the judgement whether competency has been achieved.
Authorisation	Responsibility assigned for the application of relevant management practices to approve measures according to company policies, procedures and processes, legislative and/or regulatory requirements.
Authoritative sources	Includes industry associations; industry reports; industry journals and publications; statutory authorities; legislative and regulatory requirements.
Backfill	Includes sand padding; spoil; stone free

Term	Definition/Explanation
	soil; crushed rock; rubble.
Budget	Capital expenditure, recurrent expenditure, output investment proposals, cash flow. Also includes costs for labour, materials, training, services, tools and equipment.
Budget formats	Zero based budgeting, program budgeting, line item budgeting.
Civil activities	Includes laying of geotextile; gabion baskets; concreting; reseeding of environment; cased crossings; fauna and flora control.
Coating defect assessment surveys	For identifying condition and location of irregularities. May include DCVG method; person technique method.
Coatings	Includes heat shrink sleeves; wrapping tapes; epoxy paints; coating patches.
Commonwealth and State OHS requirements	Includes general duty of care requirements; Privacy Act in relation to requirements for the maintenance and confidentiality of records of occupational injury and disease; provision of information; relevant requirements of Environmental Protection Authority.
Communication or communication strategy	Liaison with customers, staff and other stakeholders and clients; verbal directions; relevant documentation; project records/reports, electronic communications, Internet communication.

Term	Definition/Explanation
Community awareness	Inform people and organisations that could in anyway be affected by transmission pipeline anomalies, ie those residing, commerce or working near such. Promote community awareness of gas leak identification and safe practices associated with activities on or near transmission pipelines, including promoting use of Dial Before You Dig. Promote emergency response procedures for gas leak identification and safe practices associated with activities on or near transmission pipelines to emergency service agency personnel.
Competency	Focuses on what is expected of a worker/employee in the workplace rather than on the learning process, and embodies the ability to transfer and apply skills, knowledge and attitude to new situations and environments.
Competency Standard Unit(s) also refers to Unit(s) of competency	Competency standards are made up of a number of Competency Standard Units. These units describe a key function or role in a particular job function or occupation. Each unit identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency, as well as language, literacy and numeracy and Occupational Health and Safety requirements. A competency standard unit is usually linked to one or more AQF qualifications.
Components and system	May include solar powered power generation systems; 240 volt power generation systems; insulation and monolithic joints; galvanic anode beds;

Term	Definition/Explanation
	battery banks — nicad and lead acid; transformer rectifiers and CPUs; lightning protection equipment; CP test points; Kirk cells.
Contingency plans	Emergency responses to a range of abnormal operating conditions; plans for responses to critical incidents; prioritise proposed responses.
Contributions to OHS	Includes listening to the ideas and opinions of others in the team; sharing opinions, views, knowledge and skills; identifying and reporting risks and hazards; using equipment according to guidelines and operating manuals; behaviour that contributes to a safe working environment which includes following OHS procedures.
Controlling risks **See also OHS Glossary — Controls and Control Measures**	Assessing the Occupational Health and Safety consequences of materials, plant or equipment prior to purchase; obtaining expert advice; appropriate application of measures according to the hierarchy of control, namely: • elimination of the risk • engineering controls • administrative controls • personal protective equipment • designing safe operations and systems of work • inclusion of new Occupational Health and Safety information into procedures • checking enterprise compliance with regulatory requirements.
Control measures **See also OHS Glossary — Controls and Control Measures**	May include elimination of hazards, work procedures, standard operating procedures, personal protective equipment, fire safety, plant and equipment isolation, training of

Term	Definition/Explanation
	appropriate persons, communications with appropriate persons, supervision of appropriate persons, maintenance of control measures.
Damage or faults	To meters may include unreadable meters; incorrect meter locations; suspected tampering with the meter; suspected illegal connections.
Damage to cylinders	Includes valve spindle leaks; safety valve leak; corrosion; unacceptable paintwork; fire/heat damage; valve to cylinder connection leak; base/bosy damage leak; out-of-date; physical defects.
Data acquisition may include	Temperature, pressure and flow rates from regulator or custody transfer stations, water bath heater operation (water temperature, pilot light and main burner operation), faulty equipment (over pressure and under pressure, slamshut operation and filter problems), pipeline ruptures, security system monitoring and pressure and volume data for "balancing the system".
Defect	Any confirmed abnormal condition of an item whether or not this could eventually result in a failure.
Delivery area	An area to be checked for ignition sources and other hazards. Area to be appropriately designated. Smoking is not allowed.
Designated persons for OHS	Include employers; chair of OHS committee; OHS nominee; elected OHS representative/employee representative.

Term	Definition/Explanation
	Supervisors; managers; team leaders; management Occupational Health and Safety persons; and Other persons authorised or nominated by the enterprise or industry to: perform specified work, approve specified work, inspect specified work, and direct specified work.
Diagnostic, testing and restoration	Diagnostic, testing and restoration may involve: appropriate documentation relating to the protection device; voltage, current and resistance measuring instruments; microprocessor based diagnostic test equipment; laptop computer and diagnostic software; loop control test instruments.
Documentation (2)	Related to tasks includes time sheets; requisitions; work sheet/job cards; organisational forms/electronic templates.
Documentation (3)	May include standard operating procedures; OHS and environmental legislative requirements; manufacturer's specifications; Australian Standards; maintenance records; standard operating procedures; OHS and environmental legislative requirements; manufacturers' specifications; codes.
Documentation (5)	Includes coordinated maintenance plans and/or strategies, maintenance scheduling documents, budgets, reports, submissions, cost benefit risk assessments and work plans and/or other developments

Term	Definition/Explanation
Downstream	With or in the direction of the current or flow of a stream, i.e. farther down a stream. For example, the meter for a home or business is downstream from the city gate.
Drawings and specifications	May include instrument electrical drawings; circuit diagrams; component charts; wiring diagrams; site layout drawings.
Easement	Environmental surroundings of the pipeline.
Effective communication (5)	May include verbal directions; relevant documentation; activity records/reports; emergency response systems and procedures.
Effective communication (6)	Verbal directions; relevant documentation; project records/reports, presentations and meetings.
Electrical equipment	May include solar powered power generation systems; 240 volt power generation systems; insulation and monolithic joints; galvanic anode beds; battery banks — nicad and lead acid; transformer rectifiers and CPUs; lightning protection equipment; CP test points; Kirk cells.
Electrical and instrumentation equipment powered by extra low voltage	Includes: communications systems; telemetry; battery banks and charges; valve control systems; regulators; ESD systems; 24 volt lighting; control panels; fire and gas detection systems; solar panels; transmitters; gas quality analysis

Term	Definition/Explanation
	equipment; PLCs; RTUs; process control equipment; compressor control systems; gas metering equipment; DC motors.
Electrical test equipment	Meggers; digital volt meters; deadweight testers; computers; infared temperature probes; manometer; process calibrators; RTDs; frequency generation, oscilloscope.
Emergency and/or hazardous work situations **See also OHS — Emergency**	May include fire; gas leak or vapour emission; utilities failure; failure to supply; environmental damage; injury or death; significant threat to gas infrastructure.
Emergency appliances **See also OHS Glossary — Emergency**	May include emergency trucks/trailers; emergency plant (compressors, cranes, welding equipment etc); breathing apparatus; fire fighting equipment.
Emergency exercises	May include emergency trucks/trailers; emergency exercises (involving fire; explosion; vapour/liquid leak); excavation/ruptured pipeline; LPG road/rail accidents; loss of supply), testing of contingency plans.
Emergency response manual	Operations manual utilised by staff in attending and addressing Gas Industry emergencies.
Emergency responses	Include gas leaks and fire; equipment failure; hazards and incidents.
Environment	The area surrounding the work site which can be directly or indirectly affected by occurrences at the work site. Includes the

Term	Definition/Explanation
	atmosphere, soils, drains, underground water tables and ecosystem. Protection of the environment requires proper disposal of waste materials, restriction of burning off, correct handling of toxic substances, containment of CFCs and the like. The protection of the environment would also include the minimisation of those factors that contribute directly, or indirectly to the production of greenhouse gases. These contributing factors might include the minimisation of waste materials, the correct use of enterprise vehicles and machinery, the re-use or recycling of trade materials where possible and the overall reduction of energy usage through general awareness and the use of appropriate technologies.
Environmental and Sustainable Energy Procedures	Environmental and sustainable energy procedures as laid out in the appropriate environmental legislation and may include relevant Federal legislation; relevant State/Territory legislation; relevant local government by-laws; relevant government or quasi government policies and regulations; relevant community planning and development agreements (eg. Land care agreements) Sustainable energy practice refers to workplace actions that contribute to the reduction of greenhouse gases. Sustainable Energy Practice is closely related to the 'environment'. Sustainable energy practice aims to reduce the amount of wastage in electricity and other forms of energy that lead to the production of greenhouse gases. Many of the principles and practices that apply in the workplace also apply in the home and the general environment. Environmental sustainable procedures include: examining work practices that

Term	Definition/Explanation
	may use excessive electrical energy; reducing energy by using energy efficient machines and appliances (eg. Star ratings); switching off devices such as lights, machines and computers when not in use; using power-save devices, such as those incorporated in photocopiers, business machines and the like; replacing incandescent lamps with compact fluorescent lamps; using natural light to replace artificial light; regularly cleaning air conditioner filters; closing windows and doors when climate control units are used; insulating dwellings, offices and workplaces and preventing draughts; using reflective curtains to control heat; using natural or artificial shade to control sunlight; using solar water heating; using automatic processes to manage energy usage; reusing materials used in construction, engineering and manufacturing; recycling waste materials; driving motor vehicles and other machines with care; using natural gas for heating rather than oil or coal based fuels; using devices to reduce water usage; checking for leakage in hot water system pressure relief valves and elsewhere in plumbing systems; sharing information about energy conservation with other workers.
Environmental features	Include, but are not limited to, fauna/flora habitats; indigenous cultural features; indigenous and non indigenous heritage features; water catchments.
Environmental hazards	Hazards associated with LPG or natural gas, geological features, soil types, neighbouring plants, residential areas, separation distances and emission and contamination hazards.

Term	Definition/Explanation
Environmental issues	Political, legal, community and aesthetic impact of installations.
Equipment (2)	Includes cylinder trolley; hose/tools; leak detection devices; gauges; spindles; tanks, valves and fittings; seals and gaskets; pump and drive shaft; meters; emergency equipment; pipes; pneumatic/electronic control equipment; gauges; hoses and connections including hose protection systems; earthing straps; personal protective clothing; hydraulic equipment.
Equipment (pigging)	Equipment required for 'pigging' operation may include valves; PIG launcher; PIG receiver; tracking equipment; pipeline locater; technical drawings; hand tools; crane; PIG signals; pilot tube; PPE; fire extinguisher; time piece.
Equipment (inspected)	Inspected and tested may include valves, actuators and flanges; heaters and heat exchanges; station power supplies; metering equipment; process control equipment; gas analysis equipment; piping systems; sumps and drains; pressure vessels/filtration equipment.
Equipment (3)	May include pumps and compressors; pipes; hoses; valves; gauges; tank connections and fittings; personal protective equipment and clothing; articulated arms and earthing clamps and connections.
Equipment maintenance and fault repair	Includes: cabling faults; earth faults; instrumentation failure; instrument calibration; intermittent faults; equipment installation and replacement; troubleshooting of process control systems; approved software modifications and

Term	Definition/Explanation
	upgrades; commissioning.
Essential knowledge and associated skills (EKAS) learning specification (LS)	Provide specific advice in facilitating consistency and reliability in resource development and delivery. The learning specifications are premised on the separate content of the essential knowledge and associated skills referred to in each competency standard unit. The specifications are designed to: • provide the depth and breadth of essential knowledge and associated skills to be learned • ensure they support the needs of the workplace • contain assessment strategies, including a table of specifications, to increase validity, reliability and fairness • detail the resources required for satisfactory delivery in the learning environment • provide clarification regarding the type and quantity of evidence needed for assessment purposes • support a variety of delivery modes, eg face-to-face, distance, computer assisted learning or other • provide content and structure that maximizes learning retention • provide a clear purpose statement about their relationship to the overall educational program
Established procedures and requirements **See also Standard operating procedures and Approved procedures**	Include any company procedures; manufacturers' manual/specifications; quality assurance procedures; technical standards; work instructions; standard operating procedures; OHS and emergency response and evacuation procedures.

Term	Definition/Explanation
Event	Includes gas/product leaks, odourant leaks, incorrect valve positions, electrical/instrumentation problems, compressor or pump failures, communication failures, abnormal process conditions, security alarms, third party complaints.
Excavation	May occur in a variety of conditions including varying surface types such as open ground (lawn/garden) bitumen or concrete; wet/dry conditions; in a variety of traffic levels such as road or rail; in differing soil types such as rock, clay or sand; day or night; city or rural areas.
Excavation tools	Includes hand tools; backhoe; jack hammer; trenching machine; boring equipment; compacting equipment.
Exceptions and conditions	May include long term bill accounts (12 months); meter changes; manual bills; daily accounts; active and inactive accounts; gas used on an inactive account, ie vacant premises; meter reader is unable to find the meter; missing meter/records; unknown consumer investigations; vacant premises investigations; meter relocations.
Expected lifetime of equipment	The life cycle of equipment is determined by factors such as the organisation's corporate and strategic plans, the organisation's financial and other resource management guidelines, government policy, the capacity of equipment to perform to operational requirements.
External interference	External interference threats to the transmission pipelines, easements and/or

Term	Definition/Explanation
	surrounding environs – environmental damage, erosion, land slip, subsidence, fire, gas leak, dead vegetation, exposed pipe, earth moving activities, earthquake, military, fallen marker signs, compromised security and vandalism, and unauthorised land development.
Facilities and equipment/station	To be repaired may include valves, actuators and flanges; heaters and heat exchanges; station power supplies; metering equipment; process control equipment; gas analysis equipment; piping systems; sumps and drains; pressure vessels/filtration equipment; prime movers; pumping systems and equipment; compression systems and equipment.
Fault find	Identifying problems including functional faults.
Faults	Includes water leaks; oil leaks; damaged hoses; gas leaks; valves not operating; air leaks; electric control cable damage.
Financial reports	Annual reports, program financial statements, accrual reports, monthly/quarterly financial reports.
Fitting	A component, including associated flanges, bolts and gaskets used to join pipes, to change the direction or diameter of a pipeline, to provide a branch, or to terminate a pipeline.
Gas characteristics	Could include temperature, chemical composition, pressures and pressure reduction, reverse quantities and LPG

Term	Definition/Explanation
	evaporation rates.
Gas chromatography	Is the separation and measurement of the multiple components that make up natural gas, or any other product being measured with an appropriate chromatograph.
Gas infrastructure	Includes pipes, valves, scraper stations, compresors, regulators, communications equipment, heat exchanges, stations instrumentation equipment, condition monitoring equipment, process control equipment, gas measurement equipment, gas quality and analysis equipment, cathodic protection equipment, pressure vessels, data transfer equipment.
Gas systems could include	Either LPG or natural gas systems may dominate, however it is expected that systems will be selected across both, and include transmission and distribution pipelines, LPG storage facilities greater than 50kL, underground storage, tankers and ships, control systems, custody transfer stations, odorising plant, corrosion control, interconnecting systems.
Gas systems may include but are not limited to	Custody transfer stations, tanker transfer, decantation, tempered liquid petroleum systems, field or district regulators, LPG systems, meters and regulators, transmission and distribution systems.
Gas systems	Natural gas transmission, distribution and storage; liquefied petroleum gas tanker and ship transport, storage and processing terminals and distribution systems.
Hand tools	Includes, but not limited to, adjustable

Term	Definition/Explanation
	spanners; crow bars and pinch bars; bolt cutters; brooms; chisels; hacksaws; hammers; measuring tapes; nips; picks and mattocks; pliers; sealant guns; shovels and spades; sledge hammers; spanners and wrenches; spirit levels; string lines; trowels and floats; wire cutters; screw drivers; tube squeezers and blenders.
Hazardous materials	Materials that could cause serious illness or injury.
Hazards (5) **See also OHS Glossary — Hazard**	Something with the potential to cause injury and disease to persons, property or disruption to productivity. Hazards arise from workplace environment; use of equipment; poor work design; inappropriate systems, procedures and or human behaviour. May include confined spaces, electricity, gas, manual handling, noise, plant and equipment, infected blood, chemicals, temperature extremes, lightning and radiation. Making inventories of and inspecting high risk operations; and inspecting systems and operations associated with potentially hazardous events, for example, emergency communications, links to emergency services, fire fighting, chemical spill containment, bomb alerts and First Aid services.
Hazards (6) **See also OHS Glossary — Hazards**	Confined spaces, gas, electricity, manual handling, noise, plant and equipment, infected blood, chemicals, temperature, lighting, radiation.

Term	Definition/Explanation
Identifying hazards **See also OHS Glossary — Hazard Identification**	Workplace inspections, including plant and equipment; audits; maintaining and analysing Occupational Health and Safety records, including environmental monitoring and health surveillance reports; maintenance of plant and equipment; reviews of materials and equipment purchases, including manufacturers and suppliers information; and employee reporting of Occupational Health and Safety issues.
Implement	To carry out or put in place a new requirement.
Incident	An event that has caused or has the potential for injury, ill health or damage to community, employees, environment, assets. ('Incident' is the preferred term rather than 'accident')
Industry products and services	Includes organisational products; companies emerging products and services; historical products and services.
Information	On the account includes identification number; meter number; property number; position of meter; street name.
Information systems	Includes Supervisory Control And Data Acquisition (SCADA), Global Position System (GPS), Geographic Information System (GIS), maintenance management system, outage management systems, incident management systems, document management and information systems, proprietary information systems.

Term	Definition/Explanation
Inspect	To examine or check a system, assembly, component or part by visual or physical means, for the purpose of identifying defects or limits.
Inspection and testing (2)	Detailed in the National Road Transport Standard TDTC407A and TDTC597A.
Inspection and testing techniques (3)	May include hydrostatic testing; magnetic particle inspection; radiography; ultrasonic inspection; dye penetrant inspection; gas leakage detection equipment.
Inspection checks	Are made to determine test date on cylinder is within the required period; organisation's ownership; corrosion and impact damage; valve threads are clean and in good condition; safety relief valve is capped and free from obstruction; internal deposits.
Instrument and control system	Flow control equipment, pressure and temperature transmitters and transducers, telemetry equipment, gas chromatographs, moisture analysers, gas sampling equipment, PLCs.
Integrity testing (the testing of integrity)	To ensure the system conforms to required operating parameters.
Interpersonal skills	Includes the use of appropriate body language; summarising and paraphrasing to check understanding; providing opportunities for the client to confirm their request; questioning to clarify and confirm the client's needs; listening actively to

Term	Definition/Explanation
	what the client is communicating.
Investigating billing exceptions	Conditions may involve field calls undertaken to determine owner/occupiers' of properties; dates of entry of owner/occupier; meter reading and billing purposes; meter identification details; other relevant information such as forwarding address, payment arrangement.
Key features of plans and elevations	Involves the type of structure; shape of structure/building; service requirements; location of plant/equipment; vertical and horizontal measurements; clearance distance; geological features; service layouts and bore/casing details.
Leaks	May be classified into Class 1 — repair until completed; Class 2 — repair within 7 days; Class 3 — monitor, repair not economic; Class 4 — no leak found.
Learning Specification (LS)	See Essential knowledge and associated skills (EKAS) learning specification (LS)
Legislation **See also OHS Glossary — Legislation relevant to OHS**	Includes relevant sections of Federal and State OHS and Environmental Protection Acts.
Legislative and company requirements **See also OHS Glossary — Legislation relevant to OHS**	Occupational Health and Safety legislation; government acts and regulations; Australian Standards and Codes of Practice; environmental legislative requirements, company standard operating procedures and authorisation requirements and technical standards requirements

Term	Definition/Explanation
Legislative compliance **See also OHS Glossary — Legislation relevant to OHS**	Occupational Health and Safety legislation; government acts and regulations; Australian Standards and Codes of Practice; environmental legislative requirements.
Legislative requirements (2) **See also OHS Glossary — Legislation relevant to OHS**	Includes OHS; environmental; traffic control and are also set out in AS 1596, AS 2030 and AS 3509.
Legislative requirements (3) **See also OHS Glossary — Legislation relevant to OHS**	As set out in AS 1596.
Legislative requirements (5) **See also OHS Glossary — Legislation relevant to OHS**	May include Occupational Health and Safety legislation; government acts and regulations; Australian Standards and Codes of Practice; environmental legislative requirements. May also include; State or Territory gas and petroleum acts and regulations; workers compensation legislation; employee code of conduct; anti discrimination legislation; equal employment opportunity legislation; disability legislation; trade practices legislation; native title legislation; related regulations; common law.
Liaison with customers	In person or by telephone; fax; letter; Internet.
Loading and discharging LPG	Factors which need to be taken into account when loading and discharging LPG includes curfews; number of customers; volume of LPG to be delivered;

Term	Definition/Explanation
	duration of shift; distance to be travelled; equipment type; Australian Dangerous Goods Code; site access; weather conditions; delivery area is checked for ignition sources and other hazards; local environment, according to standard operating procedures.
Loading and unloading of cylinders	Is undertaken in both the terminal and customer's location, includes exchanging cylinders, according to standard operating procedures.
Location	For maintaining CP systems may be urban, country or remote. Third party monitoring.
Location for maintaining CP systems	May be urban, country or remote. Monitor third party activities and installations.
LPG transfer	Is transferred by either pump or compressor to either LPG tanks or to cylinders.
Maintenance schedules/servicing	That maintenance is performed at defined intervals to retain a system, component or part in a serviceable condition by systematic inspection, detection, replacement of worn-out items, adjustment, calibration or cleaning, etc.
Management information systems	Computers, communication channels, records management data, procedures, protocol, legislation, guidelines and awards, organisation, legal and policy materials, client information, market trends, registry and file records, library, financial records, basic statistical information, persons.

Term	Definition/Explanation
Maps and drawings	Maps include topographical maps; alignment sheets and plans; pipeline maps; city and town maps; regional/location maps; road maps. Drawings include instrument electrical drawings; circuit diagrams; component charts; wiring diagrams; site layout drawings.
Materials (2)	Includes liquid withdrawal valves; vapour service valves; relief valves; contents gauges; in situ valves; multiport valves; sullage tubes.
Materials (3)	Required for pipeline installation may include various pipes (eg PVC, nylon, PE, cast iron); fittings; coating material; bedding materials; detecta tape; trace wire; meters; valves; filters; regulators.
Measurement principles	Is the understanding of the various systems, technologies and associated components which are used to measure a product. These principles include an understanding of chemistry, physics associated with the medium which you are wanting to measure. A good understanding of electronics is required.
Methods	Used to record meter readings may include meter reading cards; meter reading sheets; electronic reading devices such as Portable Data Entry Terminal (PDET).
Minor mechanical maintenance	Is limited to visual inspection; lubrication; gland nipping; draining of water taps; degreasing; replacing readily accessible gaskets; limited mechanical re-assembly.
Modification	Where a change or update is made.

Term	Definition/Explanation
Monitoring **See also OHS — Monitoring**	Of pipeline systems may include fire and gas extinguishing and deluge systems; emergency systems; alarm and communication systems; SCADA; prime movers and compression systems; shutdown systems.
Monitoring of storage facilities **See also OHS — Monitoring**	May include monitoring, pressure; temperature; levels; corrosion; gas leaks; stock levels; pressures; security; temperature; water sprays; shutdown system.
MSDS **See also OHS — Material Safety Data Sheet (MSDS)**	Material Safety Data Sheets Information and handling of chemicals/flammable liquids are involved.
Necessary materials	May include gas detectors; purging gas; hand tools; LPG hoses; flare; valves; compressor; vessels; pump; personal protective equipment and clothing; road tanker; control and instrumentation equipment.
Negotiating skills	Utilise a range of influencing techniques to gain a positive result in achieving and maintaining the integrity of the transmission pipeline. Negotiations are held with relevant: • land owners • councils • utilities including telecommunications • earth moving contractors • cultural, heritage parks, lands and buildings

Term	Definition/Explanation
	• native title • national parks • government agencies • general contractors and/or organisations • personnel • internal and external clients and other related parties
New or changed information	Includes special customer requirements; addition of new meters; deletion of meter when necessary; changes to meter numbers; changes to property information; change in location of meter.
Nominated person(s)	Includes persons with the relevant knowledge and authority to exercise the responsibility
OHS	See OHS Glossary
OHS information to co-workers including training **See also OHS Glossary — inspection; specialists; management system (OHSMS); action plans; audit; records; reporting requirements; responsibilities; plan; systematic approach to managing OHS**	Arrangements for ongoing assessment of training needs, for example, relating to: • supervisors and managers, specific hazards, specific tasks or equipment, emergencies and evacuations • training required under Occupational Health and Safety legislation; • allocation of resources for Occupational Health and Safety training, including acquisition of training resources, development of staff training skills and purchase of training services • induction training • training for new operations, materials or equipment.

Term	Definition/Explanation
OHS issues	These could be raised by workers or designated persons and include hazards identified; problems encountered in managing risks associated with hazards; clarification on understanding of OHS policies and procedures; communication and consultation processes; follow up to reports and feedback; effectiveness of risk controls; training needs. Issues can also be raised at Occupational Health and Safety committees and other committees, for example, consultative, planning and purchasing; health and safety representatives; employee and supervisor involvement in Occupational Health and Safety management activities, for example, Occupational Health and Safety inspections, audits, environmental monitoring, risk assessment and risk control; procedures for reporting hazards, risks and Occupational Health and Safety issues by managers and employees; and inclusion of Occupational Health and Safety in consultative or other meetings and processes.
OHS legislative arrangements	The legislative requirements for OHS vary across different states and the requirements of the particular state should be reflected in the training and assessing of the competency standard. The particular differences could relate to consultation, participation and incident reporting. Commonwealth, State and Territory OHS Acts, regulations, codes of practices and standards including regulations and codes of practice relating to hazards present in the workplace or industry. General duty of care under OHS legislation and common law Requirements for the maintenance and

Term	Definition/Explanation
	confidentialiyt of records of occupational injury and disease; Requirements for the provision of OHS information and training; Provisions relating to health and safety representatives and or OHS committees Provisions relating to OHS issue resolution
OHS management system	That part of the overall management system that manages the risks associated with the business of an organisation — usually includes organisational structures, policies, planning activities, procedures, processes and human, technical and financial resources. OHS system evaluation involves: • reviewing the effectiveness of the Occupational Health and Safety management system • regular review of operating procedures • regular analysis of Occupational Health and Safety records • audits against Occupational Health and Safety legislative requirements.
OHS policies and procedures	Include policies and procedures to be followed to ensure a safe working environment. These include company standards, advisory codes of practice and any other instructions such as MSDS. Personal safety principles; workplace hazards — safety checks within the workplace; identification of potential workplace hazards; working with electrically operated tools and equipment nature of electric shock; causes of electrical accidents; First Aid; emergency/evacuation procedures.
	Are to be in accordance with state/territory

Term	Definition/Explanation
OHS requirements	legislative regulations which includes workshops/worksite safety practices; control of noise and dust; use of ladders and working platforms; control of exhaust emission; isolation of work areas; confined pace equipment and procedures; manual handling techniques; environmental requirements.
OHS safety records	Identifying records required under Occupational Health and Safety legislation, for example: • worker's compensation and rehabilitation records, hazardous substances registers, Material Safety Data Sheets (MSDS), major accident/injury notifications, and certificates and licences • manufacturer's and supplier's Occupational Health and Safety information • Occupational Health and Safety audits and inspection reports • maintenance and testing reports • workplace environmental monitoring and health surveillance records • records of instruction and training • First Aid/medical post records.
Operating budget	Staffing costs, capital expenditure/income, recurrent expenditure/income, forward estimates, cash flow.
Operational	Variations, unexpected events may include emergencies including gas leaks and fire; equipment failure; hazards and incidents; mandatory or statutory inspections; scheduled maintenance activities; electrical power failure.

Term	Definition/Explanation
Operational requirements (5)	May include product levels; product blending/mixing/odourising; manufacturers' maintenance requirements; rectification of gas system faults.
Organisational policy and procedures	These may vary between sectors and organizations. They include legislation relevant to the management of physical resources, legislation relevant to the organisation, operational, corporate, strategic plans, organisational performance standards, organisational persons practices and guidelines, organisational quality standards, government policies, Standard Operating Procedures, Australian/New Zealand Standards, ISO Standards.
Organisational procedure for managing risks including an OHS framework	Hazard management policies and procedures; hazard management documents including policies and procedures on specific hazards as well as hazard and incident reporting and investigation, workplace inspections and maintenance; communication, consultation and issue resolution procedures; human resources management procedures such as grievance procedures, induction programs, team meetings, management of performance levels; standard operating procedures and work instructions; post injury management such as first aid, critical incident debriefing, compensation and return to work; other related procedures including waste management and security. It also includes policy development and updating; determining the ways in which Occupational Health and Safety will be managed. This may include distinct Occupational Health and Safety management activities, or inclusion of Occupational Health and Safety functions

Term	Definition/Explanation
	within a range of management functions and operations such as maintenance of plant and equipment, purchasing of materials and equipment, designing operations, work flow and materials handling, and planning or implementing alterations to site, plant, operations or work systems; mechanisms for review and allocation of human, technical and financial resources needed to manage Occupational Health and Safety, including defining and allocating Occupational Health and Safety responsibilities for all relevant positions; mechanisms for keeping up to date with relevant information and updating the management arrangements for Occupational Health and Safety, for example, information on health effects of hazards, technical developments in risk control and environmental monitoring and changes to legislation; mechanisms to assess and update Occupational Health and Safety management arrangements relevant to legislative requirements; and a system for communicating Occupational Health and Safety information to employees, supervisors and managers within the enterprise.
Organisational requirements (4)	Include organisational goals, objectives, plans, systems and processes; business plans, mission statements; Occupational Health and Safety policies, procedures and programs; legal and organisational policy/guidelines and requirements; quality and continuous improvement processes and standards; confidentiality and security requirements; ethical standards; filing and documentation storage processes; work method statements; standard operating procedures; relevant environmental and cultural sensitivity legislation, regulations, policies and procedures.

Term	Definition/Explanation
Orientation of the site	Includes relationship to 'north'; currency of plan and relationship between plan and site.
Other persons	Include issuing officers, isolating officers, recipient in charge, testing officers or their equivalent.
Other services	May include water; electricity; telecommunication; sewerage and stormwater authorities; other pipeline authorities.
Parameters	Set guidelines to be worked within.
Participative arrangements **See also OHS Glossary — Participative arrangements**	Includes regular information sessions (using clear and understandable language) on existing or new OHS issues; formal and informal OHS meetings; meetings called by OHS representatives; health and safety committees; contributing suggestions and reports to management; easy access to relevant written workplace information.
PC(s)	Personal computer(s).
Permit to work **See also OHS Glossary — Permit to work**	The permit to work is an authorisation for an individual to work to in required activities and functions associated with the Gas Industry.
Permits	Include any documents or forms approved for use by enterprise safety rules and permit to work procedures.

Term	Definition/Explanation
Personal protective equipment **See OHS Glossary — Personal protective equipment (PPE)**	May include protective head wear; face masks; gloves; safety boots; clothing such as overalls; hearing protection.
Persons	May include organisation employees; contractors; consultants; maintenance persons; appropriately experienced and qualified persons; drivers, cleaners, grounds and site security persons.
Physical resources	Properties/facilities, fixtures and plant, vehicles, equipment, stock and supplies, gas systems and plant, works depots, pipelines, distribution systems, storage depots and installations.
PIG	Pipeline Inspection Gauge A PIG is a plug style piece of equipment designed to tightly fit inside a pipeline. It is propelled from a launcher usually by water or compressed air to clear the inside of a pipeline. In addition, recent developments in computer technology has been utilised and this has produced 'Intelligent' PIGs, which can record information as to a pipeline's physical condition.
Pipeline control systems	Include compressor systems and equipment (compressors, monitoring systems, power supply systems, pumps, coolers, scrubbers, expanders, anti surge systems, safety systems and compressor control systems).
Pipeline systems	May include pipes; valves; compressors; electrical and electronic components;

Term	Definition/Explanation
	PLCs; cathodic protection; pressure regulation and meters.
Plant and equipment **See also OHS — Plant**	Includes but is not limited to air compressors and hoses; concrete mixer; industrial wet and dry vacuum cleaner; pallet trolley; rollers; compactors; pumps and hoses; brick/masonry saw; ladders; trestles and planks; wheelbarrows; LPG cylinders; traffic barriers; lighting; boring equipment; concrete cutters; trenching equipment; pneumatic hammers; leakage location equipment; cathodic protection equipment; pipe locaters; fire fighting equipment; electrofusion equipment; welding equipment.
Policy	Supply, procurement, expenditure, audit, reporting and recording policies.
Power tools	Includes drills; nail guns; staplers; screwdrivers; sanders; angle grinders; pneumatic tools and sand blasters.
Preparation and implementation strategies	Include the use of the services of staff associated with maintenance and planning.
Pressure vessels and fittings	May include such items as pressure vessel; vaporisers; earth connections; relief valves; emergency shut-down valving (eg. ISC valves); manual shutdown valving; pipework; vessel footings; regulators; hoses and couplings; pumps; compressors.
Prime movers	May include turbine engines, reciprocating engines, electric motors (fuel and arburetion systems, ignition systems, lubrication systems, induction and exhaust

Term	Definition/Explanation
	systems, governing systems, power supply systems, safety and shutdown systems).
Problems	May include consumption that is abnormally high or low; reading lower than previous reading (step down); access to meter; discrepancy between meter reader's reading and that of the consumer; missing meter; meter breakdown; meter relocation.
Procedures	Includes standard operating procedures; quality procedures; organisation continuous improvement strategy.
Process monitoring	May include the following checks, stock levels; pressures; water sprays; security; gas heating valves; shutdown system; odourant dosing levels.
Processing LPG	May include blending/mixing LPG; manufacturing TLGP; odourising LPG.
Product and service issues	Includes the market and demand data; organisational product knowledge; customer delivery; faults and downtime.
Product information	Includes competitive features of products or services; product trends; information to correct problems with products or services; innovations to products or services; cost and production data; distribution processes; transmission processes.
Project activities	Major construction and maintenance activities in either the LPG or natural gas sector, including installations, transmission and distribution pipelines, LPG storage

Term	Definition/Explanation
	facilities greater than 50kL, underground storage, tankers and ships, control systems, custody transfer stations, odorising plant, corrosion control, interconnecting systems.
Record keeping	May require the use of computers and or paper records.
Records	Relating to previous routes may include meter access details; warnings relating to dogs; obstacles to access.
Records and reports (6)	Business plans and marketing plans, KPI's reports, financial reports and forecasts, monthly statements/invoices, persons reports, Lost Time Injury reports, debtor/creditor reports.
Records/documentation	Includes Occupational Health and Safety and environmental legislative requirements; erosion control documentation; vegetation control documentation; workplace mapping, eg pipeline alignment drawings, geographical maps, topographical maps; pipeline access route manuals; MSDS information; standard operating procedures.
Records/reports (5)	May include relevant documentation; routine inspections (daily readings, weekly/monthly checks); product reconciliation; maintenance activities; mandatory or statutory inspections; safety; hazard and incident; product quality; transfer documentation; corrosion control; control centre log.
Reduced or eliminated	Where something is either decreased or

Term	Definition/Explanation
	completely removed.
Reference information	Includes benchmarking reports, maintenance data, market requirements, plant budgets, business plans and risk assessment reports.
Regulatory guidelines	Where something is set as a compulsory part of a work environment.
Relevant authorities and other stakeholders	Government authorities, landowners (both current and traditional indigenous), stakeholders, local councils, other utilities; emergency services; road transport authorities; rail department.
Relevant documentation (5)	May include OHS consultation and reporting requirements; localised Occupational Health and Safety audits; injury reporting; claims management and rehabilitation; contractor control; purchasing control; plant and maintenance handling; contracts; drawings/plans; manufacturer's specifications; company standard operation and safety procedures; work permits; confined space entry permits; hot work permits; company forms; records/reports; emergency plans; environmental requirements; quality assurance documentation.
Relevant documentation (6)	Company risk management policy; codes of practice; standard operating procedures; Australian Dangerous Goods; trade practices; Occupational Health and Safety reporting requirements; injury reporting; claims management; contractor control; hazardous substances management.

Term	Definition/Explanation
	Contracts; specifications; drawings/plans; 'as-constructed' drawings/plans; manufacturer's specifications; work permits; company standard operation and safety procedures; company management plans and policies; hot work permits; company forms and files; OHS, laws and codes of practice; government legislation, acts and regulations; environmental legislative requirements; pipeline licenses; quality assurance; commercial agreements.
Relevant persons	Managers; other supervisors; inter-company departments; other utilities; council representatives; producers, transporters/shippers; consultants; government bodies/agencies; refinery persons; customers; land owners.
Relevant regulation and procedures	Refers to, but not limited to, the use of machinery/equipment; cleaning materials and aids; equipment operation; personal protective equipment e.g. safety boots, eye and ear protection, safety helmets etc.
Relevant resources	Relevant persons, materials and equipment, personal protective equipment, company standard operating procedures, equipment manuals, training resources.
Relevant sections of Standard Operating Procedures	Includes hazard policies and procedures; emergency, fire and accident procedures; procedures for the use of personal protective clothing and equipment; hazard identification and issue resolution procedures; job procedures and work instructions; relevant guidelines relating to the use of machinery and equipment.

Term	Definition/Explanation
Repair and maintenance equipment	May include oxyacetylene cutting equipment; pipe cutters; cranes; dogging and slinging activities; cold cutting equipment; linepipe and station pipe; screwed and welded fittings; flanges, gaskets and stud/nuts; hand and power tools; transport equipment.
Repair/modification techniques	May include hot tapping operations; hot tap and stroppling operations; pipe threading machinery; welding and cutting operations; gluing; fitting of pipeline repair sleeves and clamps; use of Lam Air Movers; use of pipe alignment clamps; use of Chiksans; fusion.
Reports (2)	May require the use of personal computers, other hardware media and associated software.
Reports (5)	Include routine inspections (daily readings, monthly checks); scheduled maintenance activities; mandatory or statutory inspections; hazard and incident reports.
Representatives in other utilities	Include other pipeline operators; electrical; rail; telecommunications.
Requirements **See also Standard Operating Procedures/Established Procedures**	To which equipment and procedures and outcomes must conform and includes statutory obligations and regulations, by-laws and standards called up by legislation or regulations. May include: • statutory regulations and codes of practice — National, State and Local Government • job specifications

Term	Definition/Explanation
	• transport documentation • standards in specifications (Australian/NZ/international) • procedures and work instructions • quality assurance systems • manufacturers' specifications • maintenance manuals, schedules and specifications/standards • circuit/cable schedules • design specifications • customer/client requirements and specifications • specified underpinning knowledge (specified in Evidence Guides) • National and State and Local Government guidelines, policies and imperatives relating to the environment
Resource requirements	To enable efficient planning and scheduling of routes may include availability of competent meter readers, vehicle and appropriate meter reading equipment.
Resources	May include appropriate persons; relevant persons; materials, tools and equipment etc., vessels, pumps; compressors, valves; product; personal protective equipment and clothing; control and monitoring equipment; mixing and sampling equipment; air equipment. To meet storage and/or processing operations and include appropriately experienced and qualified persons; process control equipment; station power supply; heater and heat exchangers; station instrumentation; drawings and schematics; metering equipment and gas analysis equipment; valves, actuators and flanges; compressors and prime movers; sumps and drains; PIGs; personal protective equipment and clothing.

Term	Definition/Explanation
Responsibility	For tasks and workload may include interpreting work instructions and direction; prioritise work; using time effectively; arranging work materials.
Risk management **See also OHS — Risk; Risk analysis; Risk assessment; Risk evaluation; Risk management; Risk ranking; Risk register**	Identification and control of those risks that threaten the profitability or viability of an organisation. Includes identifying and assessing risks associated with occupational hazards, and designing programs to limit exposure to those hazards. See also 'Occupational Health and Safety management system'.
Risk management plans **See also OHS — Risk**	Identification of hazards, assessment of risks, identification of control measures, implementation of control measures and review of control measures, reference to conduct and reporting of hazard and operational studies (HAZOPS) and hazard analysis studies (HAZANS) for critical incidents, recognition of six categories of exposures (personal, property, financial, environmental, product and administrative), legislative compliance, workplace health and safety, standard operating procedures, vicarious liability, professional liability, reducing loss and exposure in the work environment from personal loss-injury/common law, property loss-damage, financial-loss of income/theft, environmental liability, product-project work, administrative exposure, identification and use of manufacturer's specifications and Australian/New Zealand and ISO standards, contingency plans for response to critical incidents.
Risk management principles	Six categories of exposures (personal,

Term	Definition/Explanation
	property, financial, environmental, product and administrative, legislative compliance, workplace health and safety, procedure systems, vicarious liability, professional liability.
Risks	May include injury, death or illness, damage to plant or equipment, financial loss, non-compliance with legislation (OHS, environmental), damage to products.
Safe working procedures	Standard operating procedures may include wearing personal protective equipment; controlling traffic; controlling access to the site; ensuring trenches are correctly shored; using welding screens; the availability of correct fire extinguishers; enterprise procedures and practices; manufacturer's specifications.
Safety devices	May include deluge systems; emergency stop devices, Personal Protective Equipment. Deluge systems; emergency stop devices; Personal Protective Equipment.
Safety equipment	Includes fire extinguishers and blankets; hoses; pumps; branches; fittings/nozzles; breathing apparatus; alarms; sprinkler systems; First Aid kits.
Safety issues	Occupational Health and Safety of operatives, ongoing maintenance of facilities emergency plans, safety cases and environmental impact assessments.
Schedule requirements	Should include number of days; address

Term	Definition/Explanation
	and location; previous schedule date; route number; meter count.
Security breach investigation practices	Established procedures used to deal with the following scenarios; bomb/fire threat; intrusion; theft of equipment; damage to equipment/sabotage; personal risk of injury, disease or death; potential environmental damage.
Services	Include gas; water; electricity; telecommunication; sewerage and stormwater authorities; other pipeline authorities.
Simulated work environment	Circumstances that may arise in the work environment are constructed and used as a tool for assessing workers/employees operating under working conditions.
Solutions	Include arrange the removal of inactive meters; accounts billed; change meters; arrangements for payment made; adjust accounts; access for future meter reading made.
Stakeholders	Includes asset owners; internal clients; emergency services; land owners both current and traditional Indigenous owners; the general public; statutory authorities.
Standards **See also OHS Glossary — Standards**	Technical documents which set out specifications and other criteria for equipment, materials and methods to ensure they consistently perform as intended. The Standards referred to in competency standard units are those published by Standards Australia or in joint

Term	Definition/Explanation
	venture with Standards New Zealand and Australian Gas Association Standards. Competency in the use of other technical standards may be required in industries not restricted to Australian requirements. For example, shipping and off-shore petroleum industries are subject to standards agreed to by underwriters and enterprises or some other international convention.
Standard Operating Procedures **See also Established Procedures**	Formal arrangements of an organisation, enterprise, statutory authority or manufacturer of how work is to be done. This may include Quality assurance systems; Work Clearance systems; OHS Practices; Other Legislative requirements and testing in accordance with AG 603, AS 1697, AS 3723, AG 2885 and any other Australian or International Standard that may apply
Stations	See facilities and equipment
Strategies	Methods of conducting operations that could be over long, medium of short term.
Structures	Structure is a facility with footings deeper than 450mm and or being fuller than 2 meters.
Surface reinstatements	Include bitumen; concrete; loam/top soil; dolomite; lawn.
System logistics	Could include land and sea transport routes and equipment, transmission and distribution pipelines, land ownership and easements, siting.

Term	Definition/Explanation
Tankers	Include heavy rigid or heavy combination truck.
Technology	Includes a range of information processing equipment for storing; retrieving and using data such as electronic equipment; fixed, remote, wireless or the like; PCs, hand held recording devices.
Telephone contacts	Current contacts should be kep for consumers; Councils/rate offices; real estate agents; internal employees/departments; other statutory authorities.
Test equipment	May include reference half cells; multimeters; dataloggers; trycorders; syncorders; interrupters; CDA equipment; soil restivity test equipment.
Testing	Testing and refurbishing is covered by a range of legislative requirements and standards.
Testing and application equipment	Includes abrasive blasting equipment; compressors; low voltage and high voltage holiday detectors; paint thickness coating gauges and meters; mobile plant; pipe wrapping machines; spray painting equipment; abrasive blast comparators and standards; densitometers; coating defect assessment survey equipment (DCVG method equipment, Pearson technique method equipment); hand/power tools; heating torch.

Term	Definition/Explanation
Third parties	Include land owners (both current and traditional indigenous), both current and traditional Indigenous; local authorities; emergency services; other pipeline operators; producers, customers, shippers and vendors; government agencies and departments; contractors.
Third party liaison	Liaise with third parties whose activities can be a threat to the transmission pipeline. Informing third parties of the restrictions and requirements when working near a transmission pipeline.
Tools and equipment for LPG	May be required to perform painting, cleaning, refurbishing and testing of equipment.
Tools and equipment (1)	The types of equipment and tools used to carry out work activities include general concrete mixers; general vacuum cleaner; general trolley, non pressurised pumps and hoses; wheelbarrows; traffic barriers; extra low voltage lighting equipment; hand held tools; basic technology (e.g. PCs)
Tools and equipment (2)	Required for pipeline installation may include but is not limited to pneumatic tools and equipment; boring equipment; plastic fusion and solvent glue kits; welding plant equipment; various hand tools; trucks; slings; generators; location equipment; electrofusion equipment; window cutter; steel plates; administration equipment for documentation; lifting equipment. Tools and equipment are also required to perform painting, cleaning, refurbishing and testing of equipment and could also include cylinder trolley; hose/tools; leak detection devices; truck tail gate loader; tray gates and ropes; pipes;

Term	Definition/Explanation
	hoses; valves and gauges; protective and safety equipment.
Tools and equipment (3)	Required for pipeline installation may include but is not limited to pneumatic tools and equipment; boring equipment; plastic fusion and solvent glue kits; welding plant equipment; various hand tools; trucks; slings; pressure testing equipment; compressors; generators; location equipment; electrofusion equipment; window cutter; steel plates; administrative equipment for documentation; lifting equipment; pigging equipment. To odourise gas may include odourmeter; tools such as lance, hoses, regulators; emergency response kit including absorption material; sodium hypochlorite (neutraliser); masking agent; reference standard; level indicator (magnetic detector); personal protective equipment; fire extinguishers; emergency container; emergency equipment; transfer pump; molecular sieve for venting.
Tools and equipment (4)	Includes vehicles; pipe locator; gas detector; pipeline probe; hand held tools; mobile phone/satellite phone; high frequency radio; GPS; binoculars; camera; personal computers; intrinsically safe lighting (torch).
Tools, equipment and testing devices	Includes hand tools; valves; actuators and flanges; heaters and heat exchanges; metering equipment; process control equipment; gas analysis equipment; piping systems; sumps and drains; pressure vessels/filtration equipment; prime movers; pumping systems and equipment;

Term	Definition/Explanation
	compression systems and equipment; PIG.
Tools, materials and equipment	May include hand tools including power operated tools; plant; emergency equipment; electrical and electronic test equipment; gas detectors; air compressor; water pump.
Traffic control	Traffic control is the controlling of traffic around a work site, eg laying a gas pipe in the vicinity of a road. Materials used in traffic control include barriers; witches hats (cones); flashing hazard lights; star iron pickets; traffic signs; stop/go paddles.
Transfer equipment	May include compressors; transfer pumps.
Transfer of LPG	May be undertaken by tank to tanker; ship to storage terminal; tanker to tank; tank to tank.
Transmission pipeline standards	AS/NZS 2885 part 3 sections 5 & 6.
Troubleshooting techniques	Methods used to locate or determine the reason for a fault in a system, component or part by means of a systematic checking or analysis.
Types of adjustments	Include downstream pressure adjustment; storage pressure adjustment (vaporiser systems only); bypass pressure adjustment for pumps.
Types of checks and tests	On CP systems may include on potential surveys; on/off potential surveys; coating

Term	Definition/Explanation
	defect assessment surveys (DCVG method, Pearson technique/method, over pipeline potential method); loop impedance testing; anode bed testing; soil resistivity testing; interference testing.
Types of CP faults	May include coating damage/deterioration; interference from other systems; anode not working; equipment fault/failure. The use of personal computers, other hardware mediums and associated software may be required to detect faults.
Types of details	Include, but are not limited to, bore and casing details; ground voltages; connection details; common trenching details/distances and conversion details.
Types of drawings	Include site plans; elevations; sectional plans/elevations; detailed and specification providing illustrations and dimensions.
Types of equipment faults	May include electrical problems; over-filled vessel; compressor failure; pump failure; out-of-current inspection status; gauge failure; hose rupture/leaks; instruments out of calibration; non-flow of LPG.
Types of faults	May include gas leaks; electrical problems; compressor or pump failure; out of current inspection status; gauge failure or hose rupture leaks; instruments out of calibration; non-flow of gas; instruments and equipment require cleaning; routine servicing is due; tight nuts, valve castings

Term	Definition/Explanation
	and fasteners.
Types of gas system faults	May include liquid/vapour leaks; electrical problems; mechanical failure; over-filled vessel; out-of-current inspection status; gauge failure; hose rupture/leaks; instruments out of calibration; non-flow of Liquefied Petroleum Gas; cathodic protection system failure; corrosion.
Types of structures	Include buildings; bridges; fabricated towers; fences; wells; dams; poles; heritage/cultural features and environmental barriers.
Types of variations or irregularities	May include corrosion; impact damage; point deterioration; leakage; non-operability of shutdown systems; equipment out of calibration.
Unit(s) of competency	see also competency standard unit(s)
Upstream	Towards or in the higher part of a stream; against the current. Situated farther up the stream. For example, the city gate is upstream from the home or business meter.
Valve system	Flow control equipment, pressure and temperature transmitters and transducers, telemetry equipment, gas chromatographs, moisture analysers, gas sampling equipment, PLCs.
Work instructions	Include verbal instructions, written instruction and instructions provided visually such as video, OHS signs, symbols

Term	Definition/Explanation
	and other pictorial presentation.
Workplace hazard reports	Include face-to-face reports; phone messages; notes; memos; specially designed report forms.
Work completion details	May include log books or computer input.
Work plans/schedules	Includes formal and informal means of prioritise activities; daily plans; quality plans; safe working plans; work allocation and resource needs.

Glossary of Terms Related to Occupational Health and Safety

Introduction

This Glossary of Occupational Health and Safety (OHS) Terms has been adapted from the NOHSC official glossary of terms and developed to assist competency developers and writers, reviewers of training packages and those developing any training specification or learning materials for the Vocational Education and Training environment.

In Australia we consider that the rate of workplace fatality, injury and ill health is far too high. To reduce this toll we need to make some changes in the work place and this requires training to enable business and workers to effectively manage safety. We must get OHS right in the competency so that the resultant learning contributes to improving the capacity of those in the workplace to manage safety. This applies not only to the 'designated' OHS units but to the integration of OHS, as appropriate, into all competencies, learning programs and learning resources.

The competency standard unit TAADES505A *Research and develop competency standards*, specifies the outcomes and the knowledge and skills required to research and develop documents which outline competency requirements for a particular job function, work process, work role or specific vocational outcome. This unit cites four phases in developing a competency:

1. Research the competency area
2. Formulate competency specifications
3. Validate competency specifications
4. Finalise competency specifications.

OHS is a critical aspect of research into the area of competency and is also an important aspect of work performance to be integrated within a competency.

As in many technical areas, OHS has its own terminology. OHS affects all of us, however key words and terms are not always used in a consistent manner and this can lead to confusion. To maximise the effectiveness of our training and education we need to ensure that our use of OHS terminology is as consistent and clear as possible.

This glossary is not intended as a definitive dictionary of OHS terms but is designed to be used in the second phase of competency development, to formulate the competency specifications. It is also an invaluable tool for those involved in the design and development of learning resources.

Further information on OHS hazards, practical guidance material, standards and codes of practice is available at the National Occupational Health and Safety Commission (NOHSC) website at www.nohsc.gov.au

The glossary is intended to be an evolving and dynamic document and those wishing to comment on the terms or suggest additions or modifications should email the Team Leader of the OHS Skills Development Team at NOHSC.

NOHSC term	**Definition/Explanation**
Accident	A term that is now considered out of date. Preferred term is *incident*.
Accountability	The process by which a person with OHS responsibilities is answerable to a higher authority.
Action level	The level at which a risk is considered to be unacceptable and action is required to reduce the level of risk. May be specific such as a noise level at which hearing protection must be worn, a concentration of chemical or more generic.
Action plans	Documented plans developed within the workplace to implement OHS management, which include allocated responsibilities and time frames.
Administrative controls	Management practices that aim to control employees' exposure to specific hazards, and generally improve health and safety – examples include the use of job rotation, job enlargement
ALARA (As Low As Reasonably Achievable)	A basic concept where risks are kept as low as is reasonably achievable. ALARA is determined by reference to established codes and standards and consultation with groups impacted by the decision outcomes including those exposed to the risk.
Anthropometry	The science dealing with the comparative measurement of the size and proportions of the human body, the range of movement of

NOHSC term	Definition/Explanation
	limbs, as used in ergonomics.
Audit	A systematic examination against an agreed benchmark of the approach to managing safety to evaluate an organisation's arrangements for identifying hazards, assessing and controlling risks, and monitoring and improving the effectiveness of the management of OHS and compliance. (Note a workplace inspection is NOT an audit.)
Audit tools	The instruments for collecting evidence and conducting the analysis and evaluation (they are not the same as the audit criteria or benchmark), they may be: • developed specifically for the purpose • adapted from existing tools • purchased or accessed from existing tools. They include: • performance checklists • sets of questions to be asked • descriptions of required characteristics to be checked • limitations and instructions for use.
Authorisation of permit	Signing of permit by competent person.
Biomechanics	The application of mechanics (forces and motion) to analyse body movement and the stresses involved in body posture during movement.
Causative event	Key event that resulted in the particular outcome(s) of injury or damage.
Circumstance	Short-term situation that is relatively unusual, such as a storm or when a key person is absent.
Certification	Refer *operator certification.*
Common law	Law that is derived from the English legal system and has evolved through judicial decision and practice (case law) that establishes and follows precedent. Note difference to 'statute law'.
Condition	Permanent situation such as type of equipment, work practice, design of work environment (often different to detect or identify) that may contribute to risk.
Consequence	The injury or damage outcome of an event, which may be expressed

NOHSC term	Definition/Explanation
	quantitatively or qualitatively, there may be a range of possible outcomes for a specific event or scenario.
Confined space	An enclosed or partially enclosed space which: • is at atmospheric pressure during occupancy • is not intended or designed primarily as a place of work, and is liable at any time to: • have an atmosphere which contains potentially harmful levels of contaminant • not have a safe oxygen level or • cause engulfment • may have restricted means for entry and exit. A confined space is determined in part by the hazards associated with a defined set of circumstances (restricted entry or hazardous atmosphere, risk of engulfment) and not just with work performed in a restricted space. Examples include but may not be limited to: • storage tanks, tank cars, process vessels, boilers, pressure vessels, silos and other tank-like compartments • open-topped spaces such as pits or degreasers • pipes, sewers, shafts, ducts and similar structures • shipboard spaces entered through a small hatchway or access point, cargo tanks, cellular double bottom tanks, duct keels, ballast and oil tanks and void spaces (but not including dry cargo holds). A person is deemed to have entered a confined space when their head (i.e. the breathing zone) or upper part of the body is within the boundary of the confined space. (Note that inserting an arm for atmospheric testing is not considered an entry to a confined space). References: • AS/NZS 2865:2001 *Safe working in a confined space* • Handbook – *HB 213:2003 Guidelines for safe working in a confined spa*ce
Consultative arrangements	State and Territory OHS legislation specifies obligations for workplace consultation. The workplace arrangements to meet these obligations may include: • OHS and other consultative and planning committees • health and safety and other employee representatives • employee and supervisor involvement in OHS activities such as inspections and audits • procedures for reporting hazards, and raising and addressing OHS issues

NOHSC term	Definition/Explanation
	• employee and workgroup meetings. When developing consultative arrangements, consider: • language • shift work and rostering arrangements • timing of information and data provision • literacy and numeracy levels • workers with special needs • workplace organisational structures (for example, size of organisation, geographic, hierarchical) • cultural diversity • management approach • workplace culture and approach to OHS by managers, supervisors and employees.
Controls **See also Hierarchy of control**	The devices and methods of controlling the effect of the hazard so that the risk of injury is minimised. The 'quality' of the control is the level and reliability of the control compared with the level of risk. The quality of the controls is determined by the best available technology or approach which: • should be applied when the most probable outcome is death or serious injury • may be applied where the most probable outcome is less serious. Refer also *Hierarchy of control.* Workplace factors that impact on the controls selected and the implementation include*:* • language • shift work and rostering arrangements • literacy and numeracy • workplace organisational structures (e.g. geographic, hierarchical) • cultural diversity • training required • workplace culture related to OHS, including commitment by managers and supervisors and compliance with procedures and training.
Control measures	Devices, systems (including work methods) or approaches that reduce exposure to workplace hazards.
Crisis management plan	A flexible document that can cope with a broad range of crisis types and: • is approved at the highest levels of the organisation

NOHSC term	Definition/Explanation
	• focuses on management control • identifies responsibilities for decision making • details communication processes and psychological support • addresses arrangements with any contractors or shared tenancy • integrates the emergency response plans as well as recovery • incorporates dealing with external agencies and support • addresses planning for recovery before crisis occurs. Documentation for crisis management plan may include: • policy, emergency response structure, initial response instructions for various roles/areas, responsibility and authority of individual roles, warning systems, training requirements, resource inventory for response and recovery, program review and monitoring processes • crisis risk management documentation, such as risk management team lists, communications strategies, identification of issues, risk assessments/evaluations, vulnerability profiles, risk registers and treatment strategies. The term *emergency management* may also apply but *crisis management* infers a more holistic approach encompassing the full range of business affairs.
Dangerous Goods (DG)	Those gases, liquids and solids identified and classified under the internationally agreed system which is followed in Australia and that are subject of so called 'dangerous goods' standards and legislation. The objective of the Dangerous Goods legislation is to control the storage, handling and transport of DGs to protect the safety of workers, the public, property and the environment. While dangerous goods may also be hazardous the terms should not be confused.
Dangerous parts of plant	Potential contact or entrapment points to which the operator may be exposed during: • operation • examination • lubrication • adjustment • maintenance.
Design	The process of bringing together innovation, aesthetics, and functionality to plan and create a product, process or system to meet the artistic, industrial or performance requirement of an individual or group. The design process involves a series of activities where an idea is conceived, shaped, developed, produced and then acted upon

NOHSC term	Definition/Explanation
	to produce a designed-product. It also includes any subsequent alteration (redesign or retrofit).
Design process	There are two stages of the design process: The concept design phase considers preliminary design options, which are assessed against product specifications to determine the best preliminary design to be developed. This phase includes concept design, research and development, feasibility and risk management (including OHS risks). The detailed design phase develops the selected design to its final state. It includes research and development, feasibility studies, concept and detail design, technical and functional specifications, plans and drawings, operational systems, construct/manufacture options and detailed quantities, cost and risk analysis (including analysis of OHS risks).
Designed product	The item to be designed, including a built environment, structure, an item of plant or equipment, chemical, work system or process or any other physical attribute or system associated with either the work or its interface with people.
Duty of care	Arises from common law but is enshrined in OHS statute law and/that places into a legal form a moral duty to anticipate possible causes of injury and illness and to do everything reasonably practicable to remove or minimise these possible causes of harm. The key factors relating to duty of care are that: • duty of care applies wherever there is special relationship (employer – employee, employer – contractor, supervisor – work team member, tradesperson – apprentice) • duty of care applies to all circumstances of the relationship • individual duty of care cannot be delegated (but roles and functions may be delegated) • applies personally to individuals • applies to all risks that are foreseeable and preventable • includes the concept of *reasonable*.
Elements of systematic approaches to managing OHS including OHSMSs	A list of key requirements or major principles that are combined in a methodical and ordered manner to minimise the risk of injury or ill health in the workplace; and may include processes of OHS planning, allocation of resources, communication and consultation, hazard management, record keeping and reporting, training and competency, and review and evaluation for ongoing improvement of OHS.

NOHSC term	Definition/Explanation
Emergency	Events such as: • serious injury events • emergencies requiring evacuation • fires and explosions • hazardous substance and chemical spills • explosion and bomb alerts • security emergencies — armed robberies, intruders • internal emergencies, such as loss of power or water supply and structural collapse • external emergencies and natural disasters, such as flood, storm and traffic accident impacting on the organisation. May also be referred to as a *hazardous event*.
Emergency agency	Includes fire, police, ambulance, relevant government departments, hazardous materials response teams (HAZMAT) and OHS authorities.
Emergency control organisation (ECO)	Structured group within the organisation that includes roles such as emergency controller, communications recorder, media liaison and employee support.
Emergency equipment	Includes: • First Aid equipment • eye wash shower or portable eye washes • fire extinguishers and equipment • communication equipment • evacuation alarms • evacuation equipment, especially that for disabled persons • torches • clothing items such as coloured hats and vests.
Emergency stops and warning devices	Are fitted to plant and equipment that have a risk of entrapment or other hazard and must be: prominently, clearly and durably marked coloured red (push buttons, bars or handles) unable to be affected by electrical or electronic circuit malfunction fitted where risk assessment identifies a need.
Enforcement	Processes and instruments available to the OHS regulator under legislation may include*:* • prosecution

NOHSC term	Definition/Explanation
	• prohibition notices • improvement notices • on-the-spot fines • provisional improvement notices.
Epidemiology	The study of the distribution and determinants of disease within human populations. Patterns of injury or illness in groups of people are studied to determine causes, identify groups at risk and to identify and evaluate methods of treatment and prevention.
Ergonomics	The study of the relationship between people, the equipment they use and their physical and social work environment.
Ergonomic interventions	Includes: • design of tools • design of workplaces • design of products • design of equipment • design of work systems, processes or organisation including work flow, planning and control • job design • development of new decision making processes • new forms and organisations of work.
Ergonomic tools and databases	May include: • engineering models • Australian and International Standards • Australian and International anthropometric databases
Explosive substance	Substance that explodes if it comes into contact with heat, flame, an ignition source or incompatible substance.
Fail-to-safe	Design feature of equipment that ensures if there is a failure or defect in the product, or another factor such as loss of power, then the product is left in a safe condition.
Functional areas and management systems	Other than OHS but that impact on the management of OHS may include: • strategic planning • purchasing, procurement and contracting • logistics • HR, IR and personnel management, including payroll • engineering and maintenance • information, data and records management

NOHSC term	Definition/Explanation
	• finance and auditing • environmental management • quality management.
Guarding	Devices fitted to machinery to separate the operator from dangerous parts of the machine. Devices may include: • permanently fixed physical barriers where no access of any part of a person is required • interlocking physical barriers where access to dangerous areas is required during operation • physical barriers securely fixed by means of fasteners or devices • presence-sensing safeguarding systems.
Hazard	A source or a situation with a potential for harm in terms of human injury or ill health, damage to property, damage to the environment, or a combination of these.
Hazards of long latency	Conditions, illnesses and other health risks that result from longer term exposure to specific triggers such as chemicals, noise, radiation and psychosocial factors.
Hazards of low frequency/high consequence	High impact events that occur rarely such as explosions, fires and building collapses but may result in very serious injury, death or multiple death situations.
Hazard identification	The process of identifying sources of harm. Hazard identification may be required: • at design or pre purchase of buildings, equipment and materials • at commissioning or pre-implementation of new processes or practices • before new forms of work and organisation of work are implemented • before changes are made to workplace, equipment, work processes or work arrangements • as part of planning major tasks or activities, such as equipment shutdowns • following an incident report • when new knowledge becomes available • at regular intervals during normal operations • prior to disposal of equipment, buildings or materials. Different methods may be used to identify hazards including observation; consultation with workers, clients or other users; trial of models or prototypes; review of technical standards and other information sources; monitoring and measurement.

NOHSC term	Definition/Explanation
Hazard identification tools and processes	Include: • analysis of incident investigations • analysis of incident, injury and claims statistics • workplace inspections • job safety analysis (JSA) • audits • cause and effect diagrams • surveys • review of research and industry literature.
Hazardous event(s)	Includes incidents with the potential to seriously harm life, health, property, the environment or a combination. May also be referred to as *emergencies*.
Hazardous substance	A substance that is listed on the National Commission's List of Designated Hazardous Substances (NOHSC:10005) or has been classified as a hazardous substance by the manufacturer or importer in accordance with the National Commission's Approved Criteria for Classifying Hazardous Substances (NOHSC:1008).
Hazardous substance register	Listing of all the hazardous substances that are used or produced in a workplace together with a current Material Safety Data Sheet for each substance. May also contain risk assessments for individual hazardous substances.
HAZCHEM	An initial response emergency action code that provides information vital to emergency services to enable them to stabilise the incident scene during the early stages of a HAZMAT incident. The Code is displayed on emergency information panels on transport vehicles and on signs on buildings. HAZCHEM codes are assigned to chemicals on the basis of their flammability, toxicity, reactivity and other relevant chemical and physical properties.
HAZMAT	A contraction of the words *hazardous materials* and may be used in a range of circumstances including HAZMAT emergency response units, HAZMAT emergency response equipment and HAZMAT registers of hazardous substances.
HAZOP (Hazard and Operability Study)	An advanced risk analysis technique that involves a systematic review of a process to determine risks and risk minimisation strategies.
Health and safety representative	An employee, elected by the workgroup, who represents the OHS interests of the people with whom they work. The function is carried out in addition to the normal work role. Processes for election of

NOHSC term	Definition/Explanation
	health and safety representatives, their role and rights are specified in State and Territory legislation.
Health promotion	The promotion of health, especially as a workplace program, designed to improve and enhance employee health undertaken as a complementary activity to the prevention of work-related injury and disease. Also called *wellness*.
Health surveillance	Monitoring or checking individuals for the purpose of identifying changes due to exposure to hazards in the workplace. May include biological monitoring.
Hierarchy of control	The priority order in which hazard and risk controls should be considered with the eventual outcome often being a combination of measures. The prime emphasis is on: • elimination, and where this is not practicable, minimisation of risk by: • substitution • isolating the hazard from personnel • engineering controls • administrative controls, eg procedures, training • personal protective equipment (PPE).
Hot work	Involves using equipment that generates heat, sparks, flames or any other sources of ignition in an atmosphere that may be flammable. Includes work with welders, cutters including oxygen cutters, power tools, grinding, mobile phones. Hot work can also include breaking into 'live' equipment or performing work on live equipment that has the potential to release its contents (eg hot tap in chemical plants).
Housekeeping	Describes workplace and personal routines designed to improve hygiene and safety, for example, cleaning up spills and keeping walkways, exits and traffic areas clear.
Incident	An event that has caused or has the potential for injury, ill health or damage. (*Incident* is the preferred term rather than *accident*)
(Sources of OHS) Information	May be **internal** and include: • hazard, incident and investigation reports • workplace inspections • incident investigations • minutes of meetings

NOHSC term	Definition/Explanation
	• Job Safety Analyses (JSA's) and risk assessments • organisational data such as insurance records, enforcement notices and actions, workers compensation data, OHS performance data • reports and audits • material safety data sheets (MSDSs) and registers • employees handbooks • employees including questionnaire results • OHS advisors • manufacturers' manuals and specifications.
(Sources of OHS) Information	May be **external**, including: • regulatory bodies and OHS Acts regulations, codes and guidance material • other relevant legislation • National Occupational Health and Safety Commission (NOHSC) and Australian Bureau of Statistics • databases such as national and state injury data and NICNAS (National Industrial Chemicals Notification and Assessment Scheme) • OHS specialists and consultants • newspapers and journals, trade/industry publications • Internet sites • industry networks and associations including unions and employer groups • OHS professional bodies • research information.
Isolation	A safety device system that includes devices such as isolating switches, locks, safety bars, shields, full pressure blanks, spectacle blanks to lock controls, especially moving parts, equipment, systems or devices with stored energy, to an 'off' position while a worker is in a vulnerable position such as carrying out maintenance on rotating equipment, and electrical and hydraulic systems. Isolation systems generally use locking switches that need keys to open the lock and are used in conjunction with a danger tag system that promotes greater safety consciousness amongst the workforce for all situations in which danger to persons could arise from: • the operation of machinery, plant or equipment • the flow of steam, electricity, gases or liquids • the use of faulty or unsafe plant and equipment • include multiple locking systems and involve written authorisation by a competent person.

NOHSC term	Definition/Explanation
	Also called *lock-out* and *tag-out*.
Job Safety Analysis (JSA)	Process of examining all aspects of a task to identify hazards and conditions with a potential for injury or ill health with the objective of developing risk controls including written job instructions.
Legislation relevant to OHS	Includes Commonwealth and relevant State/Territory OHS specific acts and regulations as well as: • workers compensation • privacy legislation • contract law • trade practices • criminal law • common law • industrial relations law • equal employment opportunity and anti-discrimination law.
Life cycle	All phases in the life of a product. Specific phases depend on the type of product but may include design, development, manufacture, construction, assembly, import, supply, distribution, sale, hire, lease, storage, transport, installation, erection, commissioning, use or operation, consumption, maintenance, servicing, cleaning, adjustment, inspection, repair, modification, refurbishment, renovation, recycling, resale, decommissioning, dismantling, demolition, discontinuance, disposal.
Likelihood	The likelihood of the occurrence of the consequence, not the likelihood of the hazard or the particular scenario.
Locked out	Equipment, which is not to be operated for any reason, may be padlocked, or otherwise prevented from operation using a keyed lock. A lockout may be accompanied by a tag out, or a lock out system may incorporate a tag. Lockout means the isolation by a mechanical device, generally a lock, which, when applied at the source, physically prevents the control to any electrical or mechanical equipment being turned on. Refer also to *Isolation*.
Manual handling	The use of force applied by a person to lift, move, carry, push, pull or otherwise move or restrain an animate or inanimate object.
Material Safety Data Sheet (MSDS)	Document describing the properties and hazards of a material or substance including statements about its chemical and physical properties, health hazards, precautions for use and safe handling instructions. All manufacturers and suppliers of chemicals are

NOHSC term	Definition/Explanation
	obliged to produce an MSDS for each hazardous chemical.
Monitoring	Involves the use of valid and suitable techniques to estimate the exposure of employees to a hazard.
Musculoskeletal disorder (MSD)	An injury, illness or disease that arises in whole or part from manual handling in the workplace, whether occurring suddenly or over a prolonged period of time. (Does not include injuries caused by crushing, entrapment or cut resulting primarily form the mechanical operation of plant.
Occupational Overuse Syndrome (OOS)	Previously called RSI and refers to arrange of conditions characterised by persistent discomfort and pain in and around joints and associated with repeated movement of the joint. Recent State and Territory legislation tends to group these conditions with those arising from manual handling as Musculoskeletal Disorders.
OHS inspection	The process of physically examining and evaluating the extent to which hazards and risks exist, and/or particular OHS requirements, procedures or standards are being met. Refer also to *workplace inspection*.
OHS specialists	Include: • safety professionals • ergonomists • occupational hygienists • safety engineers • injury management advisors • health professionals.
Operator certification	The process by which a certificate to use or operate industrial equipment is issued by a certifying authority.
OHS management system (OHSMS)	That part of the organisation's overall management system that covers developing, implementing, reviewing and maintaining the activities for managing OHS. It is NOT a standard, a commercial package or folders on the shelf; however it may involve use of OHS management systems developed in the workplace to meet the OHS situation in that particular workplace. Also referred to in broader context as systematic approaches to managing OHS.
Operational controls for plant and equipment	Should: • be suitability identified

NOHSC term	Definition/Explanation
	• have nature and function clearly indicated • be readily and conveniently located • be guarded to prevent unintentional activation • be capable of locking in 'off' position to enable disconnection of all motive power and forces • be of 'fail safe' type.
Participative arrangements	Are those arrangements that inform employees and other stakeholders of OHS matters, seek their input and offer opportunity for stakeholders to participate in decisions that may impact on their OHS. May also be referred to as *consultative arrangements*, however *participation* implies a higher level of involvement.
Permit to work	A written authority document such as hot work and confined space entry that: • includes approval to undertake work and activities including tests, measurements and monitoring • is authorised by a responsible or designated person directly in control of the work • certifies appropriate precautions and controls to be followed • incorporates checklists, conditions and actions such as the frequency and duration of the work and atmospheric tests • follows recognised industry standard recording practices.
Plant	As defined in National Standard for Plant includes: • machinery, equipment (including scaffolding), appliance, implement or tool and any other component, fitting or accessory • fixed and or specified plant as cited in commonwealth, state and territory OHS legislation • mobile plant and load shifting equipment • pressure equipment such as boilers, pressure vessels and pressure piping • electrical installation and plant such as wiring, accessories, fittings, consuming devices, control and protective gear, converters and generators.
Plant Registration	The administrative process by which a certifying authority or state OHS regulator requires an organisation or industry to register plant, machinery and equipment.
Personal protective equipment (PPE)	Equipment designed to be worn to provide protection from hazards, and may include: • head protection • face and eye protection

NOHSC term	Definition/Explanation
	• respiratory protection • hearing protection • hand protection • clothing and footwear. PPE is considered the least satisfactory control measure.
Policies and procedures	Relevant to OHS include: • policies and procedures underpinning OHS including those for hazard and incident reporting, OHS communication, consultation, issue resolution and risk management • quality system documentation • purchasing and contracting procedures • documents describing how tasks, projects, inspections, jobs and processes are to be undertaken • standard operating procedures, work instructions • job or batch sheets, recipes • operators manuals • employee and contractor handbooks • job/task statements.
Positive performance indicators	Focus on assessing how successfully a workplace is performing through measuring OHS processes.
(OHS) Records	Requirements for OHS record keeping may be defined in: • OHS legislation and regulations governing reporting of incidents and maintenance of records related to specific hazards, including chemical registers and material safety data sheets (MSDSs) • privacy legislation • organisational procedures • OHS records may include: • hazard and incident reports, First Aid records • risk assessments • hazardous substances and dangerous good registers, MSDSs • risk registers • OHS audit and inspection reports • maintenance and testing records • OHS training records • outcomes of health surveillance and environmental monitoring • workers compensation claims and return to work records. OHS records must be stored taking account of: • privacy

NOHSC term	Definition/Explanation
	• confidentiality • enabling access to personal records, within legislative requirements • commercial in confidence issues as appropriate.
(OHS) Reporting requirements	Under legislation include serious injury and serious incident reporting to OHS authorities.
(OHS) Responsibilities	Those with legislated OHS responsibilities include: • company director • manager • supervisors • OHS representatives • employees and contractors • designers, manufacturers, installers, suppliers.
Residual risk	That risk that is unable to be designed out of a product or process.
Risk	The chance of something occurring that will result in injury or damage. It is measured in terms of consequences (injury or damage) and likelihood of the consequence. Refer also to *Consequence* and *Likelihood*.
Risk analysis	Analysing the risk to: • identify factors influencing the risk and the range of potential consequences • effectiveness of existing controls • likelihood of each consequence considering exposure and hazard level • combining these in some way to obtain a level of risk. Factors influencing the risk may be associated with: • equipment • work environment/organisation • task • the individual/operator • frequency and duration of exposure • number of people exposed/involved.
Risk assessment	Risk assessment is a two-step process that involves risk analysis and risk evaluation. Risk assessment as required under various OHS legislation does not necessarily require this second step of evaluation.

NOHSC term	Definition/Explanation
	Refer also to *Risk Analysis* and *Risk evaluation*.
Risk evaluation	Comparison of risk with pre-established criteria for tolerance (or as low as reasonably achievable) and the subsequent ranking of risks requiring control. This activity will usually be carried out by or in conjunction with others with advanced OHS skills and knowledge.
Risk management	The whole systematic process directed towards identifying hazards, assessing the risk and developing controls to minimise the risk and monitoring the effectiveness of the controls (and taking further action as required).
Risk ranking	A process of rating risks according to their severity and likelihood. Common systems are based on matrices or nomograms but are usually highly subjective.
Risk register	Includes: • a list of hazards, their location and people exposed • a range of possible scenarios or circumstances under which these hazards may cause injury or damage • the results of the risk assessment, and may also include; • possible control measures and dates for implementation. May also be referred to as *Hazard Register*.
Safe Design	A design process that generates options to eliminate hazards, or minimise potential risk to health and safety of those who make the product and those that use it by involving decision makers and considering OHS risks throughout the life cycle of the designed product.
Stakeholders	In workplace OHS include: • managers • supervisors • health and safety and other employee representatives • OHS committees • employees and contractors • the community.
Standards	Relevant to OHS include: • OHS regulations and standards developed by OHS regulators • national standards (NOHSC) • Australian standards • International national standards • industry standards

NOHSC term	Definition/Explanation
	• codes of practice • exposure standards • guidance notes.
Statute Law	Law created by legislation passed by government (acts and regulations) as distinct from common law.
(OHS) plan	A document that: • is usually developed annually but may be developed for a shorter or longer period • is reviewed regularly • has OHS performance indicators (ie objectives and targets that are achievable and practical) reflecting systematic approaches to managing OHS.
System of work	The overall process of work including: • method by which the work is carried out • organisation of the work • selection and maintenance of tools and equipment • supervision and training • selection of workers • allocation of tasks and responsibilities.
Systemic approach to managing OHS	Requires: • comprehensive processes that are combined in a methodical and ordered manner to minimise the risk of injury or ill health in the workplace • processes of planning, allocation of resources, communication and consultation, hazard management, record keeping and reporting, training and competency, and review and evaluation for ongoing improvement. Factors that may impact on the implementation of a systematic approach to managing OHS may include: • barriers to communication, such as language/literacy • workplace culture issues, such as management commitment, supervisors' approach to compliance and general acceptance of the priority of safety • diversity of workers • structural factors, such as multiple locations, shift work and supervisory arrangements.
Tag out	Refer to *Isolation*.

NOHSC term	Definition/Explanation
Technical advisors	To the OHS function may include: • legal practitioners • engineers (such as design, acoustic, mechanical, civil) • security and emergency response personnel • workplace trainers and assessors • maintenance and trade persons.
Wellness	Refer to *Health promotion*.
Workplace policies	Comprise written statements of employer's intentions and how the employers will action those intentions in the workplace. For example: OHS, access and equity, discrimination and manual handling.
Workplace inspection	Process of examining the workplace, usually with the aid of a checklist, to identify hazards and level of compliance with workplace procedures.

2.1 Competency Standard Units

Volume 2 Part 2

2.1 Competency Standard Units

Accessing the Competency Standard Units from this Industry Training Package

This section of the National Gas Industry Training Package outlines the industry Competency Standard Units. The Competency Standard Units have been arranged into discipline categories for ease of presentation and to facilitate quick access and referencing for users.

They are presented in the following order:

PART NUMBER	UNIT DISCIPLINE	SERIES
2.1.0	Independent Units	000
2.1.1	Cross Discipline Common Units	100
2.1.2	Distribution Discipline	200
2.1.3	Transmission Discipline	300
2.1.4	Cathodic Protection Discipline	400
2.1.5	Control Centre Discipline	500
2.1.6	Liquefied Petroleum Gas (LPG) Discipline	600
2.1.7	Support Services Discipline	700
2.1.8	Pressure Control Discipline	800
2.1.9	Imported Units	N/A

Competency Standard Components

All of the Competency Standard Units found in this National Gas Industry Training Package have been developed in accordance with DEST requirements with minor enhancements. All Parts in Volume 2 of this Training Package form an integrated component of each Competency Standard Unit and must be included when developing learning strategies and assessment processes. Importantly, each Competency Standard Unit is interrelated and linked with the Definitions/Glossary and Essential Knowledge and Associated Skills sections of the Volume. No Competency Standard Unit is to be used in isolation or exported without these interrelated components.

Qualification Codes

Each Training Package qualification has a unique eight-character code, for example in this Training Package UEG30106. In qualification codes, the:

- first three characters are letters identify the Training Package
- fourth is a number reflecting the AQF level for the qualification
- fifth and sixth characters represent the number of the qualification for the given level. That is in the case of UEG30106, it is the first and only AQF level 3 qualification on offer in the Training Package
- seventh and eight numbers identify the year in which the qualification was endorsed. Any subsequent amendments to the qualification result in this number changing to reflect the new year of endorsement.

Competency Standard Unit Codes

Each competency standard unit has a unique code. A typical code is made up of a maximum of 12 characters; normally a mixture of upper-case letters and numbers. For example in this Training Package the following approach has been adopted:

<table>
<tr><td colspan="10">Unit Number</td></tr>
<tr><td>U</td><td>E</td><td>G</td><td>N</td><td>S</td><td>G</td><td></td><td></td><td></td><td>A</td></tr>
<tr><td colspan="6">Industry — EE-Oz Training Standards identifier</td><td colspan="2">Training Package identifier</td><td colspan="2">Industry Streams: Numbers 000 to 999</td></tr>
<tr><td colspan="10">12 Characters Maximum</td></tr>
</table>

Where an amendment is made to a Competency Standard Unit the following applies:

- where changes do not affect the outcome of the unit the last character alpha identifier is incremented to indicate the new version. For example, UEGNSG100**A** is changed to UEGNSG100**B**

Where changes alter the outcome, a new unit title and code is assigned.

2.3.1 Language, Literacy and Numeracy

Volume 2 Part 3

3.1 Language, Literacy and Numeracy

The reading, writing and numeracy skills/competencies in each competency standard unit describe the recommended prerequisite entry requirements typically needed to successfully achieve the competency. A nationally-recognised language, literacy and numeracy framework has been used to provide advice as to the relevant entry level required.

The information has been derived from the National Reporting System report, *A mechanism for reporting outcomes of adult English language, literacy and numeracy programs*, The Australian National Training Authority (ANTA) and the Department of Employment Education and Training (DEET), 1994-5, jointly funded the report. Australian Training Products Ltd (ATP) distributes it for and on behalf of Language Australia Victorian Office. Stock code 3010A, ISBN: 0 7306 7493 2, April 1999.
The report:

- identifies adult English language, literacy and numeracy competencies required in the industry
- facilitates student pathways
- generates ideas for curriculum and assessment.

The report identifies a national framework of five vertical levels of competence related to complexity of language, literacy and numeracy competence. Six interrelated horizontal aspects of communication were found to apply in relation to differing orientations of social activity involving reading, writing, speaking, listening and/or numeracy. These were categorised as:

- procedural communication for performing tasks
- technical communication for using technology
- personal communication for expressing identity
- cooperative communication for interacting in groups
- systems communication for interacting in organizations
- public communication for interacting in the wider community.

The National Reporting System report should be referred to at all times for clarification, more detailed information and advice.
For the purposes of this Training Package writing, reading and numeracy competencies, have been selected from the five-level competence structure (using the Technical Communication aspect of the national framework), as a means of providing relevant entry-level advice. Registered Training Organisations should use this information to assist them in developing appropriate entry-level learning strategies and to assist learners to meet the entry-level requirements of respective competency standard units.

Table 6 — Reading, Writing and Numeracy: Indicators of Competence

Note: It is important to note that the five levels of competence, interrelated with six aspects of communication of the National Reporting System, is **not** an assessment system. It is not a curriculum. It is not a model of language acquisition. It is not a means for categorising students by a simple "level", nor is it a set of broad competency statements. It is not a recruitment instrument for employers. The NRS suggests that the "*report of a person's competence derives from the interplay between the chosen activity, the features of the text/task, and the context and level of support under which the activity is performed*".

Reading

Scale	IoC*	**Indicators of Competence**	**Technical Communication**
5	5.1	Reads and interprets structurally intricate texts in chosen fields of knowledge and across a number of	Defines the purpose and objectives for the use of a particular technology, e.g. writes a report, which includes a detailed analysis

Scale	IoC*	**Indicators of Competence**	**Technical Communication**
	5.2 5.3	genres, which involve complex relationship between pieces of information and/or propositions. Interprets subtle nuances, infers purpose of author and makes judgements about the quality of an argument. Reads and critically evaluates texts containing data which includes some abstraction, symbolism, and technicality presented in graphic, diagrammatic, formatted or visual form.	of technology as, applied in a particular workplace or environment. Draws on prior knowledge of the application of technology in researching the capacity of a new system, e.g. writes a briefing and recommends purchase or use of a particular system. Uses technological principles to reduce constraints presented by environmental or physical capacity, e.g. writes a report, which compares the effectiveness and efficiency of manual and computerised record management systems. Prepares a written or oral report, which critically evaluates the content, structure, and purpose of technical texts including graphic, diagrammatic or numerical information. Adapts task instructions to suit changes in technology, e.g. writes plain English instructions for the operation of a new machine based on the manufacturer's instructions. Draws from a number of sources and uses computer skills to prepare a report, e.g. CV and job application letter.
4	4.1 4.2	Reads and interprets structurally intricate texts in chosen fields of knowledge which require integration of several pieces of information for generating meaning. Interprets texts, which include ambiguity, and inexplicitness where reader needs to distinguish fact from opinion and infer purpose. Interprets and extrapolates from texts containing data which includes some abstraction, symbolism, and technicality presented in graphic, diagrammatic, formatted or visual form.	Compares and contrasts views on technology in newspaper articles. Interprets the purposes and objectives for the use of technology after the reading a brochure or manual. Selects technological practices to conform with the guidelines for heath and safety, environmental impact and ethical practice, and uses them within those guidelines. Uses guidelines to ensure technological equipment is used to its full capacity. Uses a computer to prepare a typed report from a had-drafted report. Compares and contrasts different technologies and their impact, e.g. argues

Scale	IoC*	**Indicators of Competence**	**Technical Communication**
			the case for new practices when using new technologies, reports on the effects of installation of new machinery. Writes a report on the impact of a particular technology for a specific audience, e.g. management committees, tri-partite committees. Reads a complex diagram to identify components and procedures for dealing with a technical fault or breakdown.

Reading — continued

Scale	IoC*	Indicators of Competence	Technical Communication
3	3.1 3.2 3.3	Reads and interprets texts of some complexity, integrating (where relevant) a number of pieces of information in order to generate meaning. Displays awareness of purpose of text, including unstated meaning. Interprets and extrapolates from texts containing data which is unambiguously presented in graphic, diagrammatic, formatted or visual form.	Reads a technical manual where the information is supported by diagrams, sufficiently well to be able to locate and comprehend particular information required, e.g. programs a VCR to record two programs in advance. Uses the author, title, key word and other search indexes of a library computer. Comprehends short summary information on computer-managed learning packages to choose a relevant package to suit own needs. Uses the word processing program on a computer to produce texts. Writes simple instructions for using familiar technology, e.g. how to use an automatic teller machine. Completes a formatted workplace test, e.g. damage or breakdown report. Writes a brief report on uses of technology, e.g. for classroom, workplace, domestic or community purposes.
2	2.1 2.2	Reads and interprets short simple texts on a personally relevant topic. Locates specific information relating to familiar contexts in a test which	Reads short, relevant, explicit, clearly formatted texts related to technology, e.g. the author and title index of a library computer.

		may contain data in simple graphic, diagrammatic, formatted or visual form.	Chooses a computer assisted learning package, having read short descriptions of one or two programs, to acquire a defined skill or area of knowledge. Writes a short description, e.g. describes a damaged part of a machine to facilitate repair. Extracts information from a list with language and numeracy components, e.g. price lists of components for computer systems. Records simple and routine information using the telephone, e.g. takes a phone message, on a form designed for this purpose. Interprets instructions, which combine pictorial and written information, e.g. directions on how to operate a piece of machinery safely.
1	1.1 1.2	Reads and identifies letter of the alphabet in the context of whole words, numbers, signs and symbols relating to personal details and immediate environment. Identifies specific information in a personally relevant text with familiar content, which may include personal details, location or calendar information in simple graphic, diagrammatic, formatted or visual form.	Recognisees very short, explicit, pictorial texts, e.g. understands logos related to worker safety before using a piece of machinery, reads letters on a keyboard. Reads graphic instructions accompanying a new piece of technology to learn new information or skills about a technology or medium, e.g. uses an automatic teller machine by following instructions given graphically on the screen. Types own name or single words into a computer-assisted learning program.

Note: IoC* — Indicators of Competency sub-level

Writing

Scale	IoC*	**Indicators of Competence**	**Technical Communication**
5	5.4 5.5	Demonstrates well-developed writing skills by selecting stylistic devices to express complex relationships between ideas and purposes. Generates complex written texts with control over generic	Defines the purpose and objectives for the use of a particular technology, e.g. writes a report, which includes a detailed analysis of technology as, applied in a particular workplace or environment. Draws on prior knowledge of the application of technology in researching the capacity of a

Scale	IoC*	**Indicators of Competence**	**Technical Communication**
		structure.	new system, e.g. writes a briefing and recommends purchase or use of a particular system. Uses technological principles to reduce constraints presented by environmental or physical capacity, e.g. writes a report, which compares the effectiveness and efficiency of manual and computerised record management systems. Prepares a written or oral report, which critically evaluates the content, structure, and purpose of technical texts including graphic, diagrammatic or numerical information. Adapts task instructions to suit changes in technology, e.g. writes plain English instructions for the operation of a new machine based on the manufacturer's instructions. Draws from a number of sources and uses computer skills to prepare a report, e.g. CV and job application letter.
4	4.4 4.5	Communicates complex relationships between ideas by matching style of writing to purpose and audience. Generates written texts reflecting a range of genres and using appropriate structure and layout.	Compares and contrasts views on technology in newspaper articles. Interprets the purposes and objectives for the use of technology after the reading a brochure or manual. Selects technological practices to conform with the guidelines for heath and safety, environmental impact and ethical practice, and uses them within those guidelines. Uses guidelines to ensure technological equipment is used to its full capacity. Uses a computer to prepare a typed report from a had-drafted report. Compares and contrasts different technologies and their impact, e.g. argues the case for new practices when using new technologies, reports on the effects of installation of new machinery. Writes a report on the impact of a particular technology for a specific audience, e.g. management committees, tri-partite committees.

Scale	IoC*	**Indicators of Competence**	**Technical Communication**
			Reads a complex diagram to identify components and procedures for dealing with a technical fault or breakdown.

Note: IoC* — Indicators of Competency sub-level

Writing — continued

Scale	**IoC***	**Indicators of Competence**	**Technical Communication**
3	3.4 3.5	Communicates relationships between ideas through selecting and using grammatical structures and notations, which are appropriate to the purpose. Produces and sequences paragraphs according to purpose of text.	Reads a technical manual where the information is supported by diagrams, sufficiently well to be able to locate and comprehend particular information required, e.g. programs a VCR to record two programs in advance. Uses the author, title, key-word and other search indexes of a library computer. Comprehends short summary information on computer-managed learning packages to choose a relevant package to suit own needs. Uses the word processing program on a computer to produce texts. Writes simple instructions for using familiar technology, e.g. how to use an automatic teller machine. Completes a formatted workplace test, e.g. damage or breakdown report. Writes a brief report on uses of technology, e.g. for classroom, workplace, domestic or community purposes.
2	2.3 2.4	Writes about a familiar topic using simple sentence structure and joining ideas through conjunctive links where appropriate. Completes forms or writes notes using factual or personal information relating to familiar contexts.	Reads short, relevant, explicit, clearly formatted texts related to technology, e.g. the author and title index of a library computer. Chooses a computer assisted learning package, having read short descriptions of one or two programs, to acquire a defined skill or area of knowledge. Writes a short description, e.g. describes a damaged part of a machine to facilitate repair. Extracts information from a list with language and numeracy components, e.g. price lists of

Scale	IoC*	Indicators of Competence	Technical Communication
			components for computer systems. Records simple and routine information using the telephone, e.g. takes a phone message, on a form designed for this purpose. Interprets instructions, which combine pictorial and written information, e.g. directions on how to operate a piece of machinery safely.
1	1.3 1.4 1.5	Copies letters of the alphabet, numbers, and dates in order to convey personal details such as name, address, telephone number. Writes basic personal details about self or others such as name, address, and signature. Writes one or two phrases/simple sentences conveying an idea, message or opinion drawing from a modelled text.	Recognisees very short, explicit, pictorial texts, e.g. understands logos related to worker safety before using a piece of machinery, reads letters on a keyboard. Reads graphic instructions accompanying a new piece of technology to learn new information or skills about a technology or medium, e.g. uses an automatic teller machine by following instructions given graphically on the screen. Types own name or single words into a computer-assisted learning program.

Note: IoC* — Indicators of Competency sub-level

Numeracy

Scale	IoC*	Indicators of Competence	Technical Communication
5	5.10 5.11 5.12	Interprets, selects and investigates appropriate mathematical information and relationships highly embedded in an activity, item or text. Selects and applies a wide range of mathematical strategies flexibly to generate solutions to problems across a broad range of contexts. Uses a wide range of oral and written informal and formal language and representation including symbols, diagrams and charts to communicate	Calculates distance, length and location using the trigonometry and geometry of triangles in relevant situations, e.g. locates grid reference on a map for a boat travelling on an given bearing with time and speed specified; uses dimensions provided on a scaled plan of a roof to find the pitch or slope of the roof. Calculates quantities of materials to title the roof applying a 4% allowance for wastage. Plans and gathers information on a negotiated topic form a variety of sources including government, industry and media about relevant community or workplace issues. Organises information by grouping. Graphically represents and analyses information for a particular purpose. Presents, individually or in a team, a

Scale	IoC*	Indicators of Competence	Technical Communication
		mathematically.	report expressing a viewpoint, which is substantiated by discussion of supporting statistical evidence. Interprets and applies metric quantities and numbers in scientific notation, e.g. calculates the amount of oil in litres spilled from a tanker if it covers a surface area of water of approximately 1200 hectares (1.2 x 107m2) to a thickness of 6 x 103mm. Uses financial formulae, e.g. simple and compound interest to calculate and contrast the interest incurred in borrowing money from financial institutions.
4	4.10 4.11 4.12 4.13	Selects and investigates appropriate mathematical information and relationships embedded in an activity, item or text. Selects and applies an expanding range of mathematical strategies flexibly to solve problems in a variety of contexts. Examines and questions the appropriateness, possible interpretations and implications of aspects of a mathematical activity. Uses a range of oral and written informal and formal language and representation including symbols, diagrams and charts to communicate mathematically.	Uses ratio and scale to interpret dimensions on a basic plan. Applies similarity and ratio to estimate and calculate lengths, e.g. finds height of a building, a tree. Compares quality and costs of using imported vs Australian tiles, discount vs brand name paints. Presents information in appropriate graphical format to show different interpretations and influences, e.g. analysis of government spending on education. Applies formulae and interprets results relevant to a familiar practical situation, measuring the dimensions needed and substituting them into the formula, adjusting units where necessary, e.g. length of edging for circular garden or pond, capacity of a water tank or bath. Uses area and perimeter to calculate a range of options, e.g. given a certain length of fencing, plan a range of options for paddock dimensions, which meet specific area requirements. Calculates and contrasts monthly income from average sales, given a variety of salary options involving retainers and commission rates.

Note: IoC* — Indicators of Competency sub-level

Numeracy — continued

Scale	IoC*	Indicators of Competence	Technical Communication
3	3.10 3.11 3.12 3.13	Selects appropriate mathematical information embedded in a real life activity, item or text. Selects and applies a range of mathematical strategies to solve problems in a number of contexts which are familiar and may be interrelated. Reflects on and questions reasonableness and appropriateness of the purpose, process and outcomes of a mathematical activity. Uses oral and written informal and formal language and representation including symbols and diagrams to communicate mathematically.	Uses a distance scale to find the shortest route between two locations on a map and considers road terrain conditions in deciding preferred route. Expresses and calculates with metric quantities, e.g. interprets and costs quantities of cheese given different forms such as 350g, 0.35kg. Measures common three-dimensional shapes, e.g. room, and represents the information on an appropriate diagram drawn to scale. Calculates with common, fractions and metric measurements, e.g. adjusts the quantities in a recipe by halving or doubling to obtain the required amount. Uses a variety of methods to analyse advertising by comparing savings on a number of different items, e.g. at 12% off, 15% off, 1/3 off, price reduced by $10. Compares casual and permanent rates of pay over a given time span for work of the same nature.
2	2.9 2.10 2.11 2.12	Locates relevant mathematical information in a familiar real life activity text. Selects and uses straightforward mathematical actions in a familiar and predictable contexts. Uses estimation and prior experience to examine purpose and check reasonableness of the process and outcomes of a mathematical activity. Uses oral and written informal and formal language and representation some symbols and diagrams to communicate mathematically.	Compares measurements taken with estimated lengths of familiar objects, e.g. estimates and measures storeroom dimensions.
1	1.10	Locates simple key mathematical information in a familiar real life	Estimates lengths of familiar objects using metric units, e.g. a person's height,

Scale	IoC*	Indicators of Competence	Technical Communication
	1.11	activity text.	height of doorway.
	1.12	Recognises and uses straightforward mathematical actions which relate to immediate contexts.	
	1.13	Uses rough estimation and prior experience to identify purpose and check reasonableness of the process and outcomes of a mathematical activity.	
		Uses everyday informal oral language and representation including familiar symbols and diagrams to communicate mathematically.	

UEG20211 Certificate II in Gas Industry Pipeline Operations

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	HLTFA311A Apply First Aid	30
2	Update	Group A	HLTFA302C Provide first aid in remote situation	30
2	Update	Group A	UEENEED101A Use computer applications relevant to a workplace	20
2	Update	Group A	UEPOPS203B Operate and monitor communications system	20
2	Update	Group A	UEPOPS205B Conduct minor mechanical maintenance	30
2	Update	Group A	UETTDREL14A Working safely near live electrical apparatus as a non-electrical worker	40

Description

Scope
This qualification provides competencies for entry level gas industry transmission, distribution and pipeline operations functions including; laying utilities distribution infrastructure (including pipes), developing gas pipeline infrastructure and reading gas meters in industrial, commercial and rural environments, on pipelines, associated facilities and equipment; and in control centres.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 120 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG105B	Establish the work site	60
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG003A	Locate, prove and protect gas distribution assets	40
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
Total points in core		**240**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 120 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	**Imported and Common Elective Units** Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	70

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 120 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	**Imported and Common Elective Units** Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	70
B	**Qualification Electives** You may select all your elective units from this Group	50	120

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 70		**Weighting Points**
CPCCOHS1001A	Work safely in the construction industry	10
HLTFA311A	Apply first aid	30
HLTFA302C	Provide first aid in remote situation	30
RIIMPO308B	Conduct tracked dozer operations	40
RIIMPO318B	Conduct skid steer loader operations	70
TLILIC0012A	License to operate a vehicle loading crane (Capacity 10 metre tonnes and above)	40
TLIC2025A	Operate four wheel drive vehicle	40
TLILIC2016A	Licence to drive heavy rigid vehicles	40
TLILIC2001A	Licence to operate a forklift truck	40
UEPOPS203B	Operate and monitor communications system	20
UEPOPS205A	Conduct minor mechanical maintenance	30
UETTDREL14A	Working safely near live electrical apparatus as non	40

	electrical worker	
UEENEEC001B	Maintain documentation	20
UEENEED101A	Use computer applications relevant to a workplace	20
UEENEEE102A	Fabricate, dismantle, assemble of utilities industry components	40
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points. Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework.	**Up to 70 Points**

Group B – Qualification Electives At least 50 points to be achieved from this group. You may select all your elective units from this Group.		**Weighting Points**
UEGNSG202B	Construct and lay distribution pipelines	80
UEGNSG209B	First on site emergency response on a distribution pipeline	80
UEGNSG212A	Construct, lay and connect a residential single point gas distribution service to a plastic main	40
UEGNSG213A	Construct, lay and connect a residential single point gas distribution service to a metal main	40
UEGNSG214A	Construct and lay gas distribution mains	40
UEGNSG301B	Coat gas pipelines	60
UEGNSG302B	Maintain pipeline easements	40
UEGNSG613A	Assess the operational capability of gas safety equipment on delivery vehicle	40
UEGNSG701B	Process meter reading information using appropriate technology	40
UEGNSG702B	Read and record meter readings	40
UEGNSG704A	Conduct an appliance relight	40

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

UEG20311 Certificate II in Gas Industry Transmission Pipeline Construction

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	HLTFA311A Apply First Aid	10
2	Update	Group A	HLTFA302C Provide first aid in remote situation	10
2	Update	Group A	UEENEED101A Use computer applications relevant to a workplace	20
2	Update	Group A	UEPOPS203B Operate and monitor communications system	20
2	Update	Group A	UEPOPS205B Conduct minor mechanical maintenance	30
2	Update	Group A	UETTDREL14A Working safely near live electrical apparatus as a non-electrical worker	40
2	Edit	Group A	Correct weighting points HLTFA301C Apply first aid HLTFA302A Provide first aid in remote situation	 10 10

Description

Scope

This qualification provides competencies for entry level gas transmission pipeline construction activities including right of way preparation, rigging operations, hydrotesting, operating transmission pipeline construction plant and equipment and conducting minor mechanical maintenance.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 120 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG105B	Establish the work site	60
UEGNSG125A	Carry out transmission pipeline construction work activities	40
UEGNSG128A	Establish a transmission pipeline construction work site	40
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
Total points in core		**240**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 120 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	70

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 120 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	70
B	Qualification Electives You may select all your elective units from this Group	50	120

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 70		**Weighting Points**
CPCCOHS1001A	Work safely in the construction industry	10
HLTFA311A	Apply first aid	10
CPCCLDG3001A	Licence to perform dogging	30
CPCCLRG3001A	Licence to perform rigging basic level	40
HLTFA302C	Provide first aid in remote situation	10
RIIMPO308B	Conduct tracked dozer operations	40
RIIMPO318B	Conduct skid steer loader operations	70
TLILIC0012A	License to operate a vehicle loading crane (Capacity 10 metre tonnes and above)	40
TLIC2025A	Operate four wheel drive vehicle	40
TLILIC2016A	Licence to drive heavy rigid vehicles	40
TLILIC2001A	Licence to operate a forklift truck	40

UEPOPS203B	Operate and monitor communications system	20
UEPOPS205B	Conduct minor mechanical maintenance	30
UETTDREL14A	Working safely near live electrical apparatus as non electrical worker	40
UEENEEC001B	Maintain documentation	20
UEENEED101A	Use computer applications relevant to a workplace	20
UEENEEE102A	Fabricate, dismantle, assemble of utilities industry components	40
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework	**Up to 70 Points**

Group B – Qualification Electives At least 50 points to be achieved from this group. You may select all your elective units from this Group.		**Weighting Points**
UEGNSG003A	Locate, prove and protect gas distribution assets	40
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG301B	Coat gas pipelines	60
UEGNSG302B	Maintain pipeline easements	40
UEGNSG320A	Establish right of way access for transmission pipeline construction	30
UEGNSG321A	Undertake hydrotesting for transmission pipeline construction	30
UEGNSG322A	Undertake rigging operations for transmission pipeline	30
UEGNSG323A	Operate transmission pipeline construction plant and equipment	30
UEGNSG701B	Process meter reading information using appropriate technology	40
UEGNSG702B	Read and record meter readings	40
UEGNSG704A	Conduct an appliance relight	40

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

UEG20411 Certificate II in Gas Industry Cylinder Operations

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	HLTFA311A Apply First Aid	10
2	Update	Group A	HLTFA302C Provide first aid in remote situation	10
2	Update	Group A	UEENEED101A Use computer applications relevant to a workplace	20
2	Update	Group A	UEPOPS203B Operate and monitor communications system	20
2	Update	Group A	UEPOPS205B Conduct minor mechanical maintenance	30
2	Update	Group A	UETTDREL14A Working safely near live electrical apparatus as a non-electrical worker	40
2	Edit	Group A	Correct weighting points HLTFA301C Apply first aid HLTFA302A Provide first aid in remote situation	 10 10

Description

Scope

This qualification provides competencies for entry level gas industry cylinder operations for domestic and industrial supply of gaseous fuels. It encompasses checking, testing, maintaining and filling of gaseous fuel cylinders and the storage, handling, loading, transportation and distribution of cylinders in accordance with the relevant Australian Standards and regulatory requirements.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 120 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG105B	Establish the work site	60
UEGNSG604B	Fill gas cylinders	80
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
Total points in core		**240**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 120 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	60
B	Qualification Electives	60	120

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 120 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	60
	You may select all your elective units from this Group		

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 60		**Weighting Points**
TLILIC2016A	Licence to drive heavy rigid vehicles	40
UEPOPS203B	Operate and monitor communications system	20
HLTFA311A	Apply first aid	10
HLTFA302C	Provide first aid in remote situation	10
TLILIC0012A	License to operate a vehicle loading crane (Capacity 10 metre tonnes and above)	40
TLIC2025A	Operate four wheel drive vehicle	40
TLILIC2001A	Licence to operate a forklift truck	40
UEPOPS205B	Conduct minor mechanical maintenance	30
UETTDREL14A	Working safely near live electrical apparatus as non electrical worker	40
UEENEEC001B	Maintain documentation	20
UEENEED101A	Use computer applications relevant to a workplace	20
UEENEEE102A	Fabricate, dismantle, assemble of utilities industry	40

	components	
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points. Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework	**Up to 60 Points**

Group B – Qualification Electives At least 60 points to be achieved from this group. You may select all your elective units from this Group.		**Weighting Points**
UEGNSG003A	Locate, prove and protect gas distribution assets	40
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG202B	Construct and lay distribution pipelines	80
UEGNSG301B	Coat gas pipelines	60
UEGNSG302B	Maintain pipeline easements	40
UEGNSG602B	Load, discharging LPG by road tanker	80
UEGNSG603B	Load, unload and exchange gas cylinders	80
UEGNSG605B	Refurbish gas cylinders	80
UEGNSG613A	Assess the operational capability of gas safety equipment on delivery vehicle	40
UEGNSG701B	Process meter reading information using appropriate technology	40
UEGNSG702B	Read and record meter readings	40
UEGNSG704A	Conduct an appliance relight	40

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

UEG20511 Certificate II in Gaseous Fuel Delivery Operations

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	HLTFA311A Apply First Aid	10
2	Update	Group A	HLTFA302C Provide first aid in remote situation	10
2	Update	Group A	UEENEED101A Use computer applications relevant to a workplace	20
2	Update	Core	UEPOPS203B Operate and monitor communications system	20
2	Update	Group A	UEPOPS205B Conduct minor mechanical maintenance	30
2	Update	Group A	UETTDREL14A Working safely near live electrical apparatus as a non-electrical worker	40
2	Edit	Group A	Correct weighting points HLTFA301C Apply first aid HLTFA302A Provide first aid in remote situation	 10 10

Description

Scope
This qualification provides competencies in base level gaseous fuel vessels transport and delivery operations, including safe handling procedures, OHS and environmental compliance, and conducting operational checks

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 130 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG613A	Assess the operational capability of gas safety equipment on delivery vehicle	40
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
TLILIC2016A	Licence to drive heavy rigid vehicles	40
TLIF2012A	Apply safe procedures when handling/transporting goods or explosives	30
UEPOPS203B	Operate and monitor communications system	20
Total points in core		**230**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 130 points from the following groups:		
Group	**Minimum points**	**Maximum points**

A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points	0	60
B	Qualification Electives You may select all your elective units from this Group	70	130

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 60		**Weighting Points**
HLTFA311A	Apply first aid	10
HLTFA302C	Provide first aid in remote situation	10
TLILIC0012A	License to operate a vehicle loading crane (Capacity 10 metre tonnes and above)	40
TLIF2012A	Apply safe procedures when handling/transporting goods or explosives	40
TLILIC2001A	Licence to operate a forklift truck	40
TLILIC3017A	Licence to drive heavy combination vehicle	30
UEPOPS205B	Conduct minor mechanical maintenance	30
UETTDREL14A	Working safely near live electrical apparatus as non electrical worker	40
UEENEEC001B	Maintain documentation	20
UEENEED101A	Use basic computer applications relevant to a workplace	20
UEENEEE102A	Fabricate, dismantle, assemble of utilities industry components	40
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20

	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 2. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points. Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework	**Up to 60 Points**

Group B – Qualification Electives At least 70 points to be achieved from this group. You may select all your elective units from this Group.		**Weighting Points**
UEGNSG003A	Locate, prove and protect gas distribution assets	40
UEGNSG105B	Establish the work site	60
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG202B	Construct and lay distribution pipelines	80
UEGNSG301B	Coat gas pipelines	60
UEGNSG602B	Load, discharging LPG by road tanker	80
UEGNSG603B	Load, unload and exchange gas cylinders	80
UEGNSG604B	Fill gas cylinders	80
UEGNSG605B	Refurbish gas cylinders	80
UEGNSG701B	Process meter reading information using appropriate technology	40
UEGNSG702B	Read and record meter readings	40
UEGNSG704A	Conduct an appliance relight	40

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

UEG30211 Certificate III in Gas Supply Industry Operations

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	BSBWOR301B Organise personal work priorities and professional development	40
2	Add	Group A	TLILIC2016A Licence to drive heavy rigid vehicles	50
2	Add	Group B	BSBWHS301A Maintain workplace safety	40
2	Add	Group B	UEENEEE102A Fabricate, assemble, and dismantle utilities industry components	40
2	Add	Group B	UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications	40
2	Add	Group B	UEGNSG209B First on site emergency response on a distribution pipeline	80
2	Add	Group B	UEGNSG301B Coat gas pipelines	60
2	Add	Group B	UEGNSG302B Maintain pipeline easements	40
2	Add	Group B	UEGNSG320A Right of way access preparation for transmission pipeline construction	30
2	Add	Group B	UEGNSG602B Load, discharging LPG by road tanker	80
2	Add	Group B	UEGNSG603B Load, unload and exchanging gas cylinders	80
2	Add	Group B	UEGNSG604B Fill gas cylinders	80
2	Add	Group B	UEGNSG605B Refurbish gas cylinders	80
2	Add	Group B	UEGNSG609B Coordinate repair of faults in gas processing/storage facilities and equipment	80
2	Add	Group B	UEGNSG613A Assess the operational capability of gas safety equipment on tankers	40
2	Add	Group A	HLTCPR211A Perform CPR	10

2	Add	Group A	HLTFA311A Provide First Aid	10

Description

Scope
This qualification provides competencies to conduct Gas Supply Industry activities such as installation, maintenance, fault find and repair, operations of distribution and transmission gas pipelines and associated equipment.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 800 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG105B	Establish the work site	60
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
Total points in core		**160**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 800 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 3. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points	0	160
B	Qualification Electives You may select all your elective units from this Group	640	800

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 160		**Weighting Points**
BSBFLM303C	Contribute to effective workplace relationships	40
BSBFLM305C	Support operational plan	40
BSBFLM306C	Provide workplace information and resourcing plans	40
BSBFLM309C	Support continuous improvement systems and processes	40
BSBFLM311C	Support a workplace learning environment	40
BSBFLM312B	Contribute to team effectiveness	40
BSBINN301A	Promote innovation in a team environment	40
BSBWOR301B	Organise personal work priorities and professional development	40
CPCCLDG3001A	Licence to perform dogging	30
CPCCLRG3001A	Licence to perform rigging basic level	40
CPCCLRG3002A	Licence to perform rigging intermediate level	40
CPCCOHS1001A	Work safely in the construction industry	10
HLTCPR211A	Perform CPR	10
HLTFA311A	Provide First Aid	10
RIIMPO308B	Conduct tracked dozer operations	40
RIIMPO309A	Conduct wheeled dozer operations	40
RIIMPO318B	Conduct skid steer loader operations	70
RIIMPO319A	Conduct backhoe/loader operations	50
RIIHAN309A	Conduct Telescopic Materials Handler Operations	80
TLILIC3017A	Licence to drive heavy combination vehicle	40
TLILIC2001A	Licence to operate a forklift truck	40
TLILIC0012A	License to operate a vehicle loading crane (Capacity 10 metre tonnes and above)	40

TLILIC3006A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	60
TLILIC3008A	Licence to operate a slewing mobile crane (up to 20 tonnes)	70
TLILIC4009A	Licence to operate a slewing mobile crane (up to 60 tonnes)	70
UETTDREL04B	Working safely near live electrical apparatus as non electrical worker	40
UEENEEM020A	Attend to breakdowns in hazardous areas — gas atmospheres	20
UEENEEM076A	Use and maintain the integrity of a portable gas detection device	20
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 3. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points. Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework	**Up to 160 points**

Group B – Qualification Electives At least 640 points to be achieved from this group. You may select all your elective units from this Group.		**Weighting Points**
UEGNSG107B	Control gas odourisation	110
UEGNSG125A	Carry out transmission pipeline construction work activities	40
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG202B	Construct and lay distribution pipelines	80
UEGNSG203B	Commission and decommission gas distribution pipelines	100
UEGNSG205B	Launch and recover PIG in a gas distribution pipeline	100
UEGNSG206B	Perform routine maintenance on distribution pipeline facilities and equipment	110
UEGNSG208B	Gas distribution pipeline surveillance	110
UEGNSG329A	Gas transmission pipeline surveillance	110
UEGNSG304B	Commission/decommission gas transmission pipelines	100
UEGNSG306B	Pipeline pigging in gas transmission pipeline	40
UEGNSG307B	Perform routine maintenance on transmission pipeline facilities and equipment	110
UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines	60
UEGNSG401B	Maintain cathodic protection systems	110
UEGNSG402B	Install cathodic protection systems	110
UEGNSG606B	Monitor and control the transfer of LPG	100
UEGNSG607B	Process LPG	100
UEGNSG608B	Perform minor maintenance on gas processing/storage facilities and equipment	110
UEGNSG610B	Control storage of LPG in terminal	110
UEGNSG703B	Investigate billing exceptions/conditions	110

Group B – Qualification Electives At least 640 points to be achieved from this group. You may select all your elective units from this Group.		**Weighting Points**
UEGNSG801B	Monitor and operate flow control, measuring and regulating devices for gas pressure control	110
BSBWHS301A	Maintain workplace safety	40
UEENEEE102A	Fabricate, assemble, and dismantle utilities industry components	40
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEGNSG209B	First on site emergency response on a distribution pipeline	80
UEGNSG301B	Coat gas pipelines	60
UEGNSG302B	Maintain pipeline easements	40
UEGNSG320A	Right of way access preparation for transmission pipeline construction	30
UEGNSG602B	Load, discharging LPG by road tanker	80
UEGNSG603B	Load, unload and exchanging gas cylinders	80
UEGNSG604B	Fill gas cylinders	80
UEGNSG605B	Refurbish gas cylinders	80
UEGNSG609B	Coordinate repair of faults in gas processing/storage facilities and equipment	80
UEGNSG613A	Assess the operational capability of gas safety equipment on tankers	40

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

UEG40311 Certificate IV in Gas Supply Industry Operations

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	BSBCUS401B Coordinate implementation of customer service strategies	40
2	Update	Core	UEENEEE117A Implement and monitor energy sector OHS policies and procedures	20
2	Update	Core	UETTDREL15A Respond to power systems technical enquiries and requests	60
2	Add	Group A	CPCPCM4012A Estimate and cost work	40
2	Add	Group A	HLTCPR211A Perform CPR	10
2	Add	Group A	HLTFA311A Apply First Aid	10
2	Add	Group B	UEENEEE102A Fabricate, assemble, and dismantle utilities industry components	40
2	Add	Group B	UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications	40
2	Add	Group B	UEGNSG209B First on site emergency response on a distribution pipeline	80
2	Add	Group B	UEGNSG301B Coat gas pipelines	60
2	Add	Group B	UEGNSG302B Maintain pipeline easements	40
2	Add	Group B	UEGNSG602B Load, discharging LPG by road tanker	80
2	Add	Group B	UEGNSG603B Load, unload and exchanging gas cylinders	80
2	Add	Group B	UEGNSG604B Fill gas cylinders	80
2	Add	Group B	UEGNSG605B Refurbish gas cylinders	80
2	Add	Group B	UEGNSG613A Assess the operational capability of gas safety equipment on tankers	40

Description

Scope
This qualification provides competencies to supervise and monitor Gas Supply Industry activities including supervision of installation, diagnostics and maintenance of distribution and transmission gas pipelines and associated equipment.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 1020 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG105B	Establish the work site	60
UEGNSG309B	First on site emergency response	40
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20
UETTDREL15A	Respond to power systems technical enquiries and requests	40
Total points in core		**260**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 1020 points from the following groups:		
Group	**Minimum points**	**Maximum points**

A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 4. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points	0	220
B	Qualification Electives	0	640
C	Qualification Electives You may select all your elective units from this Group	260	1020

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 220 points		**Weighting Points**
BSBCUS401B	Coordinate implementation of customer service strategies	40
BSBINM401A	Implement workplace information system	40
BSBLED401A	Develop teams and individuals	40
BSBMGT402A	Implement operational plan	40
BSBMGT403A	Implement continuous improvement	40
BSBWOR401A	Establish effective workplace relationships	50
BSBWOR402A	Promote team effectiveness	50
BSBWOR404B	Develop Work Priorities	40
UETTDREL04B	Working safely near live electrical apparatus as non electrical worker	40
UEENEEM020A	Attend to breakdowns in hazardous areas — gas atmospheres	20
UEENEEM076A	Use and maintain the integrity of a portable gas detection device	20
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
CPCPCM4012A	Estimate and cost work	40

HLTCPR211A	Perform CPR	10
HLTFA311A	Apply First Aid	10
	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 4. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework	**Up to 220 points**

Group B – Qualification Electives Complete units to a maximum weighting of 640 points		**Weighting Points**
UEGNSG107B	Control gas odourisation	110
UEGNSG125A	Carry out transmission pipeline construction work activities	40
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG202B	Construct and lay distribution pipelines	80
UEGNSG203B	Commission and decommission gas distribution pipelines	100
UEGNSG205B	Launch and recover PIG in a gas distribution pipeline	100
UEGNSG206B	Perform routine maintenance on distribution pipeline facilities and equipment	110
UEGNSG208B	Gas distribution pipeline surveillance	110
UEGNSG320A	Establish right of way access for transmission pipeline construction	30
UEGNSG329A	Gas transmission pipeline surveillance	110
UEGNSG304B	Commission/decommission gas transmission pipelines	100
UEGNSG306B	Pipeline pigging in gas transmission pipeline	40
UEGNSG307B	Perform routine maintenance on transmission pipeline facilities and equipment	110
UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines	60
UEGNSG401B	Maintain cathodic protection systems	110
UEGNSG402B	Install cathodic protection systems	110
UEGNSG606B	Monitor and control the transfer of LPG	100
UEGNSG607B	Process LPG	100
UEGNSG608B	Perform minor maintenance on gas processing/storage facilities and equipment	110
UEGNSG610B	Control storage of LPG in terminal	110

Group B – Qualification Electives Complete units to a maximum weighting of 640 points		**Weighting Points**
UEGNSG703B	Investigate billing exceptions/conditions	110
UEGNSG801B	Monitor and operate flow control, measuring and regulating devices for gas pressure control	110
UEENEEE102A	Fabricate, assemble, and dismantle utilities industry components	40
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEGNSG209B	First on site emergency response on a distribution pipeline	80
UEGNSG301B	Coat gas pipelines	60
UEGNSG302B	Maintain pipeline easements	40
UEGNSG602B	Load, discharging LPG by road tanker	80
UEGNSG603B	Load, unload and exchanging gas cylinders	80
UEGNSG604B Fill gas cylinders	80	
UEGNSG605B	Refurbish gas cylinders	80
UEGNSG613A	Assess the operational capability of gas safety equipment on tankers	40

Group C – Qualification Electives Complete units to at least 260 points, with a maximum weighting of 1020 points		**Weighting Points**
UEGNSG106B	Coordinate repair of pipeline, facilities and equipment	110
UEGNSG108B	Operate and monitor pipeline control systems	60
UEGNSG109B	Control field pipeline operations	60
UEGNSG110B	Supervise technical operations for gas distribution/transmission	60
UEGNSG111B	Produce maintenance strategies and plans for gas facility	80
UEGNSG112B	Conduct isolation procedures for permit to work system for gas industry work site	80
UEGNSG131A	Compile a gas industry technical report	20
UEGNSG204B	Coordinate gas distribution pipeline repair and modifications	110
UEGNSG207B	Coordinate construction, laying and testing of gas distribution pipelines	110
UEGNSG210B	Supervise and monitor contract staff for work on distribution pipelines	120
UEGNSG305B	Coordinate gas transmission pipeline repair and modifications	110
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines	40
UEGNSG310B	Supervise and monitor contract staff	60
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline	40
UEGNSG312B	First response to a facility event	60
UEGNSG313B	Check and report on station conditions	40
UEGNSG314B	Liaise with third party and the community to maintain pipeline integrity and community safety	40

UEGNSG315B	Aerial transmission pipeline surveillance	40
UEGNSG316B	Site control of excavations in the vicinity of a transmission pipeline	60
UEGNSG317B	Monitor and report on cathodic protection systems	40
UEGNSG318B	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	100
UEGNSG319B	Custody transfer metering and gas quality analysis	80
UEGNSG324A	Follow procedures to deal with incidents related to the abuse of drugs and alcohol	60
UEGNSG325A	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	80
UEGNSG326A	Coordinate and monitor staff and contractors	60
UEGNSG327A	Coordinate transmission pipeline construction operations	60
UEGNSG501B	Operate gas infrastructure to meet nominated demand	60
UEGNSG502B	Control centre communication with gas industry stakeholders	60
UEGNSG504B	Monitoring and controlling field activities	60
UEGNSG505B	Use control centre systems to monitor and control gas infrastructure	60
UEGNSG609B	Coordinate repair of faults in gas processing/storage facilities and equipment	110
UEGNSG611B	Control LPG storage/processing operations	110
UEGNSG612B	Supervise technical operations for liquefied petroleum gas storage and processing	120

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

UEG50211 Diploma of Gas Supply Industry Operations

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	BSBWHS501A Ensure a Safe Workplace	60
2	Update	Group A	UEENEEE117A Implement and monitor energy sector OHS policies and procedures	20
2	Update	Group A	UETTDREL15A Respond to power systems technical enquiries and requests	60

Description

Scope
This qualification provides competencies to manage Gas Supply Industry activities including management of projects covering the installation, diagnostics and maintenance of distribution and transmission gas pipelines and associated equipment.

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 1260 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG105B	Establish the work site	60
UEGNSG309B	First on site emergency response	40
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
UEGNSG113B	Manage a utilities industry OHS management system	80
UEGNSG120B	Manage gas system environmental compliance	60
Total points in core		**340**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 1260 points from the following groups:		
Group	**Minimum points**	**Maximum points**

A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 5. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points	0	260
B	Qualification Electives	0	640
C	Qualification Electives	260	340
D	Qualification Electives	180	340

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 260		**Weighting Points**
BSBCUS501C	Manage quality customer service	40
BSBFLM309C	Support continuous improvement systems and processes	40
BSBINM501A	Manage an information or knowledge management system	50
BSBINN502A	Build and sustain an innovative work environment	50
BSBLED501A	Develop a workplace learning environment	60
BSBMGT502B	Manage people performance	70
BSBMGT515A	Manage operational plan	60
BSBMGT516C	Facilitate continuous improvement	60
BSBWHS501A	Ensure a Safe Workplace	60
BSBWOR501B	Manage personal work priorities and professional development	60
BSBWOR502B	Ensure team effectiveness	60
UETTDREL15A	Respond to power systems technical enquiries and requests	60
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20

UEENEEM020A	Attend to breakdowns in hazardous areas — gas atmospheres	20
UEENEEM076A	Use and maintain the integrity of a portable gas detection device	20
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 5. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework	**Up to 260 points**

Group B – Qualification Electives Complete units to maximum weighting of 640 points		**Weighting Points**
UEGNSG107B	Control gas odourisation	110
UEGNSG125A	Carry out transmission pipeline construction work activities	40
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG202B	Construct and lay distribution pipelines	80
UEGNSG203B	Commission and decommission gas distribution pipelines	100
UEGNSG205B	Launch and recover PIG in a gas distribution pipeline	100
UEGNSG206B	Perform routine maintenance on distribution pipeline facilities and equipment	110
UEGNSG208B	Gas distribution pipeline surveillance	110
UEGNSG320A	Establish right of way access for transmission pipeline construction	30
UEGNSG329A	Gas transmission pipeline surveillance	110
UEGNSG304B	Commission/decommission gas transmission pipelines	100
UEGNSG306B	Pipeline pigging in gas transmission pipeline	40
UEGNSG307B	Perform routine maintenance on transmission pipeline facilities and equipment	110
UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines	60
UEGNSG401B	Maintain cathodic protection systems	110
UEGNSG402B	Install cathodic protection systems	110
UEGNSG606B	Monitor and control the transfer of LPG	100
UEGNSG607B	Process LPG	100
UEGNSG608B	Perform minor maintenance on gas processing/storage facilities and equipment	110

Group B – Qualification Electives Complete units to maximum weighting of 640 points		**Weighting Points**
UEGNSG610B	Control storage of LPG in terminal	110
UEGNSG703B	Investigate billing exceptions/conditions	110
UEGNSG801B	Monitor and operate flow control, measuring and regulating devices for gas pressure control	110

Group C – Qualification Electives Complete units to at least 260 points, with a maximum weighting of 340 points		**Weighting Points**
UEGNSG106B	Coordinate repair of pipeline, facilities and equipment	110
UEGNSG108B	Operate and monitor pipeline control systems	60
UEGNSG109B	Control field pipeline operations	60
UEGNSG110B	Supervise technical operations for gas distribution/transmission	60
UEGNSG111B	Produce maintenance strategies and plans for gas facility	80
UEGNSG112B	Conduct isolation procedures for permit to work system for gas industry work site	80
UEGNSG131A	Compile a gas industry technical rep	20
UEGNSG204B	Coordinate gas distribution pipeline repair and modifications	110
UEGNSG207B	Coordinate construction, laying and testing of gas distribution pipelines	110
UEGNSG210B	Supervise and monitor contract staff for work on distribution pipelines	120
UEGNSG305B	Coordinate gas transmission pipeline repair and modifications	110
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines	40
UEGNSG310B	Supervise and monitor contract staff	60

UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline	40
UEGNSG312B	First response to a facility event	60
UEGNSG313B	Check and report on station conditions	40
UEGNSG314B	Liaise with third party and the community to maintain pipeline integrity and community safety	40
UEGNSG315B	Aerial transmission pipeline surveillance	40
UEGNSG316B	Site control of excavations in the vicinity of a transmission pipeline	60
UEGNSG317B	Monitor and report on cathodic protection systems	40
UEGNSG318B	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	100
UEGNSG319B	Custody transfer metering and gas quality analysis	80
UEGNSG324A	Follow procedures to deal with incidents related to the abuse of drugs and alcohol	60
UEGNSG325A	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	80
UEGNSG326A	Coordinate and monitor staff and contractors	60
UEGNSG327A	Coordinate transmission pipeline construction operations	60
UEGNSG501B	Operate gas infrastructure to meet nominated demand	60
UEGNSG502B	Control centre communication with gas industry stakeholders	60
UEGNSG504B	Monitoring and controlling field activities	60
UEGNSG505B	Use control centre systems to monitor and control gas infrastructure	60
UEGNSG609B	Coordinate repair of faults in gas processing/storage facilities and equipment	110
UEGNSG611B	Control LPG storage/processing operations	110
UEGNSG612B	Supervise technical operations for liquefied petroleum gas storage and processing	120

Group D – Qualification Electives Complete units to at least 180 points, with a maximum weighting of 340 points.		**Weighting Points**
UEGNSG503B	Manage emergencies and critical incidents for gas infrastructure	80
UEGNSG114B	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	100
UEGNSG115B	Manage gas systems projects	80
UEGNSG116B	Manage Gas Industry physical resources	80

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

UEG60211 Advanced Diploma of Gas Supply Industry Operations

Modification History

Release	Action	Core/Elective	Details	Points
2	Update	Group A	BSBWHS501A Ensure a Safe Workplace	60
2	Update	Group A	UEENEEE117A Implement and monitor energy sector OHS policies and procedures	20
2	Update	Group A	UETTDREL15A Respond to power systems technical enquiries and requests	60

Description

Scope
This qualification provides competencies to design and manage Gas Supply Industry activities and projects

Pathways Information

Not applicable.

Licensing/Regulatory Information

Not applicable.

Entry Requirements

Not applicable.

Employability Skills Summary

Not applicable.

Packaging Rules

Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 1700 points in accordance with the Elective Competency Standard Units table below.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEGNSG102B	Carry out work activities in a utilities industry work environment	60
UEGNSG104B	Comply with environmental policies and procedures	20
UEGNSG105B	Establish the work site	60
UEGNSG309B	First on site emergency response	40
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
UEGNSG113B	Manage a utilities industry OHS management system	80
UEGNSG120B	Manage gas system environmental compliance	60
UEGNSG123B	Manage financial resources in Gas Industry facility	120
Total points in core		**460**

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 1700 points from the following groups:		
Group	**Minimum points**	**Maximum points**

A	Imported and Common Elective Units Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 5. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points	0	360
B	Qualification Electives	0	640
C	Qualification Electives	260	340
D	Qualification Electives	180	340
E	Qualification Electives	440	540

Group A – Imported and Common Elective Units Complete units to a maximum weighting of 360		**Weighting Points**
BSBCUS501C	Manage quality customer service	40
BSBFLM309C	Support continuous improvement systems and processes	40
BSBINM501A	Manage an information or knowledge management system	50
BSBINN502A	Build and sustain an innovative work environment	50
BSBLED501A	Develop a workplace learning environment	60
BSBMGT502B	Manage people performance	70
BSBMGT515A	Manage operational plan	60
BSBMGT516C	Facilitate continuous improvement	60
BSBWHS501A	Ensure a Safe Workplace	60
BSBWOR501B	Manage personal work priorities and professional development	60
BSBWOR502B	Ensure team effectiveness	60
UETTDREL15A	Respond to power systems technical enquiries and requests	60

UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20
UEENEEM020A	Attend to breakdowns in hazardous areas — gas atmospheres	20
UEENEEM076A	Use and maintain the integrity of a portable gas detection device	20
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20
	Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 6. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points Note: For further information see Application of the NQC Flexibility Formula, Page 10, UEG11 Gas Industry Training Package, Version 1, Volume 1 Qualification Framework	**Up to 360 points**

Group B – Qualification Electives Complete units to a maximum weighting of 640		**Weighting Points**
UEGNSG107B	Control gas odourisation	110
UEGNSG125A	Carry out transmission pipeline construction work activities	40
UEGNSG215A	Conduct excavations in the gas industry	40
UEGNSG202B	Construct and lay distribution pipelines	80
UEGNSG203B	Commission and decommission gas distribution pipelines	100
UEGNSG205B	Launch and recover PIG in a gas distribution pipeline	100
UEGNSG206B	Perform routine maintenance on distribution pipeline facilities and equipment	110
UEGNSG208B	Gas distribution pipeline surveillance	110
UEGNSG320A	Establish right of way access for transmission pipeline construction	30
UEGNSG329A	Gas transmission pipeline surveillance	110
UEGNSG304B	Commission/decommission gas transmission pipelines	100
UEGNSG306B	Pipeline pigging in gas transmission pipeline	40
UEGNSG307B	Perform routine maintenance on transmission pipeline facilities and equipment	110
UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines	60
UEGNSG401B	Maintain cathodic protection systems	110
UEGNSG402B	Install cathodic protection systems	110
UEGNSG606B	Monitor and control the transfer of LPG	100
UEGNSG607B	Process LPG	100
UEGNSG608B	Perform minor maintenance on gas processing/storage facilities and equipment	110

Group B – Qualification Electives Complete units to a maximum weighting of 640		**Weighting Points**
UEGNSG610B	Control storage of LPG in terminal	110
UEGNSG703B	Investigate billing exceptions/conditions	110
UEGNSG801B	Monitor and operate flow control, measuring and regulating devices for gas pressure control	110

Group C – Qualification Electives Complete units to at least 260 points, with a maximum weighting of 340 points		**Weighting Points**
UEGNSG106B	Coordinate repair of pipeline, facilities and equipment	110
UEGNSG108B	Operate and monitor pipeline control systems	60
UEGNSG109B	Control field pipeline operations	60
UEGNSG110B	Supervise technical operations for gas distribution/transmission	60
UEGNSG111B	Produce maintenance strategies and plans for gas facility	80
UEGNSG112B	Conduct isolation procedures for permit to work system for gas industry work site	80
UEGNSG131A	Compile a gas industry technical rep	20
UEGNSG204B	Coordinate gas distribution pipeline repair and modifications	110
UEGNSG207B	Coordinate construction, laying and testing of gas distribution pipelines	110
UEGNSG210B	Supervise and monitor contract staff for work on distribution pipelines	120
UEGNSG305B	Coordinate gas transmission pipeline repair and modifications	110
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines	40
UEGNSG310B	Supervise and monitor contract staff	60

UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline	40
UEGNSG312B	First response to a facility event	60
UEGNSG313B	Check and report on station conditions	40
UEGNSG314B	Liaise with third party and the community to maintain pipeline integrity and community safety	40
UEGNSG315B	Aerial transmission pipeline surveillance	40
UEGNSG316B	Site control of excavations in the vicinity of a transmission pipeline	60
UEGNSG317B	Monitor and report on cathodic protection systems	40
UEGNSG318B	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	100
UEGNSG319B	Custody transfer metering and gas quality analysis	80
UEGNSG324A	Follow procedures to deal with incidents related to the abuse of drugs and alcohol	60
UEGNSG325A	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	80
UEGNSG326A	Coordinate and monitor staff and contractors	60
UEGNSG327A	Coordinate transmission pipeline construction operations	60
UEGNSG501B	Operate gas infrastructure to meet nominated demand	60
UEGNSG502B	Control centre communication with gas industry stakeholders	60
UEGNSG504B	Monitoring and controlling field activities	60
UEGNSG505B	Use control centre systems to monitor and control gas infrastructure	60
UEGNSG609B	Coordinate repair of faults in gas processing/storage facilities and equipment	110
UEGNSG611B	Control LPG storage/processing operations	110
UEGNSG612B	Supervise technical operations for liquefied petroleum gas storage and processing	120

Group D – Qualification Electives Complete units to at least 180 points, with a maximum weighting of 340 points		**Weighting Points**
UEGNSG503B	Manage emergencies and critical incidents for gas infrastructure	80
UEGNSG114B	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	100
UEGNSG115B	Manage gas systems projects	80
UEGNSG116B	Manage Gas Industry physical resources	80

Group E – Qualification Electives Complete units to at least 440 points, with a maximum weighting of 540 points		**Weighting Points**
UEGNSG117B	Plan and implement the data acquisition and metering requirements of a gas system	120
UEGNSG118B	Select and commission equipment to meet pressure and temperature control specifications	120
UEGNSG119B	Manage workplace risk in a Gas Industry facility	60
UEGNSG121B	Prepare safe design specifications of a gas system	120
UEGNSG122B	Manage a customer service gas business unit	120

Note:
1. Prerequisite pathways shall be identified and met for all elective units selected.
2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

END OF QUALIFICATION

Custom Content Section

Not applicable.

BSBCUS401B Coordinate implementation of customer service strategies

Modification History

Release	Comments
Release 1	This version first released with *BSB07 Business Training Package version 6.0.* Revised unit. Performance criteria amended so that the learner is not required to 'incorporate evidence of customer satisfaction in decision to modify products or services'. Required skills updated to focus on learning and development practices and compliance with policy and procedures. Replaces BSBCUS401A Coordinate implementation of customer service strategies

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to advise on, carry out and evaluate customer service strategies, including the design of improvement strategies based on feedback. Operators may have responsibility to provide guidance or to delegate aspects of these tasks to others.

Application of the Unit

This unit applies to individuals with a broad knowledge of customer service strategies who contribute well developed skills in addressing customer needs and problems.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	**Performance Criteria**
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

1. Advise on customer service needs	1.1 Clarify and accurately assess ***customer needs*** using appropriate ***communication techniques***
	1.2 Diagnose problems matching service delivery to ***customers*** and develop options for improved service within ***organisational requirements***
	1.3 Provide relevant and constructive advice to promote the improvement of customer service delivery
	1.4 Use ***business technology*** and/or ***online services*** to structure and present information on customer service needs
2. Support implementation of customer service strategies	2.1 Ensure customer service strategies and opportunities are promoted to ***designated individuals and groups***
	2.2 Identify and allocate available budget resources to fulfil customer service objectives
	2.3 Promptly action ***procedures to resolve customer difficulties*** and ***complaints*** within organisational requirements
	2.4 Ensure that decisions to implement ***strategies*** are taken in consultation with designated individuals and groups
3. Evaluate and report on customer service	3.1 Review client satisfaction with service delivery using verifiable data in accordance with organisational requirements
	3.2 Identify and report changes necessary to maintain service standards to designated individuals and groups
	3.3 Prepare conclusions and recommendations from verifiable evidence and provide constructive advice on future directions of client service strategies
	3.4 Maintain systems, records and reporting procedures to compare changes in customer satisfaction

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to
  - communicate effectively with personnel and clients at all levels
  - articulate customer service strategies
- interpersonal skills to:
  - build relationships with customers
  - establish rapport
- literacy skills to:
  - prepare general information and papers
  - read a variety of texts
  - write formal and informal letters according to target audience
- planning skills to develop implementation schedules
- problem-solving skills to diagnose organisational problems relating to customer services
- self-management skills to:
  - comply with policies and procedures
  - consistently evaluate and monitor own performance
  - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
  - anti-discrimination legislation
  - ethical principles
  - codes of practice
  - privacy laws
  - environmental issues
  - occupational health and safety (OHS)
- principles of customer service
- organisational business structure, products and services
- product and service standards and best practice models.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • identifying needs and priorities of the organisation in delivering services to customers • responding to and reporting on customer feedback • designing strategies to improve delivery of products and services • knowledge of the principles of customer service.
Context of and specific resources for assessment	Assessment must ensure: • access to an actual workplace or simulated environment • access to office equipment and resources • examples of customer complaints, feedback and strategies.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of documentation reporting changes necessary to maintain service standards • analysis of responses to case studies and scenarios • demonstration of techniques • observation of presentations • oral or written questioning to assess knowledge of customer service techniques and strategies • review of systems, records and reporting procedures to compare changes in customer satisfaction.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Customer needs may relate to:	• accuracy of information • advice or general information • complaints • fairness/politeness • further information • making an appointment • prices/value • purchasing organisation's products and services • returning organisation's products and services • specific information.
Communication techniques may include:	• analysing customer satisfaction surveys • analysing quality assurance data • conducting interviews • consultation methods, techniques and protocols • making recommendations • obtaining management decisions • questioning • seeking feedback to confirm understanding • summarising and paraphrasing.
Customers may include:	• corporate customers • individual members of the organisation • individual members of the public • internal or external • other agencies.
Organisational requirements may include:	• access and equity principles and practice • anti-discrimination and related policy • confidentiality and security requirements • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • payment and delivery options

	• pricing and discount policies • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals • replacement and refund policy and procedures • who is responsible for products or services.
Business technology may include:	• answering machine • binder • computer • fax machine • photocopier • printer • shredder • telephone.
Online services may include:	• access to product database by customers online • access to purchase, delivery and account records • contact centre • online ordering • online payments • online registration • quick/reasonable response • two-way communication online.
Designated individuals and groups may include:	• colleagues • committee • customers • external organisation • line management • supervisor.
Procedures to resolve customer difficulties may include:	• external agencies (e.g. Ombudsman) • item replacement • referrals to supervisor • refund of monies • review of products or services • using conflict management techniques.

Customer complaints may include:	• administrative errors such as incorrect invoices or prices
	• customer satisfaction with service quality
	• damaged goods or goods not delivered
	• delivery errors
	• products not delivered on time
	• service errors
	• specific e-business problems and issues:
	  • difficulty accessing services
	  • inactive links
	  • not appreciating differing hardware and software
	  • services not available
	  • supply errors such as incorrect product delivered
	  • time taken to access services
	  • unfriendly website design
	  • website faults
	• warehouse or store room errors such as incorrect product delivered.

Customer service ***strategies*** may include:	• courtesy/politeness • delivery times • merchandise characteristics • price offers • product/refund guarantees • product/service availability.

Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBCUS501C Manage quality customer service

Modification History

Release	Comments
Release 1	New release of this Qualification released with *version 6 of BSB07* Business *Services Training Package*. Revised unit. Required skills updated to focus on learning and development practices and compliance with policy and procedures.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to develop strategies to manage organisational systems that ensure products and services are delivered and maintained to standards agreed by the organisation.
Operators may have staff involved in delivering customer service and are responsible for the quality of their work. In many instances the work will occur within the organisation's policies and procedures framework. At this level, the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies, will be required.

Application of the Unit

Many managers are involved in ensuring that products and services are delivered and maintained to standards agreed by the organisation.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

1. Plan to meet internal and external customer requirements	1.1 Investigate, identify, assess, and include the needs of ***customers*** in planning processes 1.2 Ensure plans achieve the ***quality***, time and cost specifications agreed with customers
2. Ensure delivery of quality products and services	2.1 Deliver ***products and services*** to customer specifications within organisation's business plan 2.2 Monitor team performance to consistently meet the organisation's quality and delivery standards 2.3 Assist colleagues to overcome difficulty in meeting customer service standards
3. Monitor, adjust and review customer service	3.1 Develop and use ***strategies*** to monitor progress in achieving product and/or service targets and standards 3.2 Develop and use strategies to obtain customer feedback to improve the provision of products and services 3.3. Develop, procure and use ***resources*** effectively to provide quality products and services to customers 3.4 Make decisions to overcome problems and to adapt customer services, products and service delivery in consultation with appropriate individuals and groups 3.5 Manage records, reports and recommendations within the organisation's systems and processes

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify trends and positions of products and services
- communication skills to:
  - coach and mentor staff and colleagues
  - monitor and advise on customer service strategies
- literacy skills to:
  - edit and proofread texts to ensure clarity of meaning and accuracy of grammar and punctuation
  - prepare general information and papers according to target audience
  - read and understand a variety of texts
- problem-solving skills to:
  - deal with customer enquiries or complaints
  - deal with complex and non-routine difficulties
- technology skills to select and use technology appropriate to a task
- self-management skills to:
  - comply with policies and procedures
  - consistently evaluate and monitor own performance
  - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
  - anti-discrimination legislation
  - Australian consumer law
  - ethical principles
  - codes of practice
  - privacy laws
  - financial legislation
  - occupational health and safety (OHS)
- organisational policy and procedures for customer service including handling customer complaints
- service standards and best practice models
- public relations and product promotion
- techniques for dealing with customers, including customers with specific needs
- techniques for solving complaints including the principles and techniques involved in the management and organisation of:
  - customer behaviour
  - customer needs research
  - customer relations
  - ongoing product and/or service quality
  - problem identification and resolution

- quality customer service delivery
- record keeping and management methods
- strategies for monitoring, managing and introducing ways to improve customer service relationships
- strategies to obtain customer feedback.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • plans, policies or procedures for delivering quality customer service • demonstrated techniques in solving complex customer complaints and system problems that lead to poor customer service • knowledge of techniques for solving complaints.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • assessment of written reports • demonstration of techniques • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • evaluation of leadership, supervision, coaching and mentoring used to assist colleagues to overcome difficulty in meeting customer service standards • review of strategies developed and used to monitor progress in achieving product and/or service targets and standards • review of records, reports and recommendations about managing customer service.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Customers may be:	• Board members • clients, purchasers of services • co-workers, peers and fellow frontline managers • members of the general public who make contact with the organisation, such as prospective purchasers of services • potential funding bodies • supervisors • suppliers of goods and services and contractors providing goods and services.
Quality may refer to:	• characteristics of a product, system, service or process that meet the requirements of customers and interested parties.
Products and services may include:	• either products or services • goods • ideas • infrastructure • private or public sets of benefits.
Strategies may refer to:	• databases and other controls to record and compare data over time • electronic feedback mechanisms using intranet, internet and email • feedback forms and other devices to enable communication from customers • long-term or short-term plans for monitoring achievement and evaluating effectiveness • policies and procedures • questionnaires, survey and interviews • training and development activities.
Resources may include:	• buildings/facilities • equipment • finance • information • people • power/energy

	• technology • time.

Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBFLM303C Contribute to effective workplace relationships

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to gather information and maintain effective working relationships and networks, with particular regard to communication and representation. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers have a key role in contributing to efficient and effective work teams within the context of the organisation. They play a prominent part in motivating, mentoring, coaching and developing team cohesion through providing leadership for the team and forming the bridge between the management of the organisation and the team members. At this level, work will normally be carried out within known routines, methods and procedures which require the exercise of some discretion and judgement. This unit is related to BSBWOR401A Establish effective workplace relationships.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Seek, receive and communicate information and ideas	1.1. Collect ***information*** associated with the achievement of work responsibilities from appropriate ***sources*** 1.2. Communicate ideas and information to ***diverse audiences*** in an appropriate and sensitive manner 1.3. Seek contributions from internal and external sources to develop and refine new ideas and approaches in accordance with organisational processes 1.4. Facilitate ***consultation processes*** to allow employees to contribute to issues related to their work, and promptly communicate outcomes of consultation to the work team 1.5. Promptly deal with and resolve issues raised, or refer them to ***relevant personnel***
2. Encourage trust and confidence	2.1. Treat people with integrity, respect and empathy 2.2. Encourage effective relationships within the framework of ***the organisation's social***, ***ethical and business standards*** 2.3. Gain and maintain the trust and confidence of ***colleagues***, ***customers and suppliers*** through competent performance 2.4. Adjust interpersonal styles and methods in relation the to organisation's social and cultural environment
3. Identify and use networks and relationships	3.1. Identify and utilise ***workplace networks*** to help build relationships 3.2. Identify and describe the value and benefits of networks and other work relationships for the team and the organisation
4. Contribute to positive outcomes	4.1. Identify difficulties and take action to rectify the situation within own level of responsibility according to organisational and legal requirements 4.2. Support colleagues in resolving work difficulties 4.3. Regularly review ***workplace outcomes*** and implement improvements in consultation with relevant personnel 4.4. Identify and resolve ***poor work performance*** within own level of responsibility and according to organisational policies 4.5. Deal constructively with conflict, within the organisation's established processes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- coaching and mentoring skills to provide support to colleagues
- functional literacy skills to access and use workplace information
- relationship management and communication skills to:
  - interpret information from a variety of people
  - respond to unexpected demands from a range of people
  - gain the trust and confidence of colleagues
  - deal with people openly and fairly
  - forge effective relationships with internal and/or external people.

Required knowledge

- principles and techniques associated with relationship management, including:
  - developing trust and confidence
  - behaving consistently in work relationships
  - identifying the cultural and social environment
  - identifying and assessing interpersonal styles
  - establishing networks
  - identifying and resolving problems
  - handling conflict
  - managing poor work performance
  - monitoring and improving work relationships
  - using anti-discrimination/bias strategies and making contributions
- relevant legislation from all levels of government that may affect business operation, especially in regard to:
  - occupational health and safety and environmental issues
  - equal opportunity
  - industrial relations
  - anti-discrimination.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • using culturally appropriate communication techniques to share work-based information with teams and individuals in accordance with organisation policies • developing networks and building team relationships • regularly reviewing workplace outcomes to identify and resolve issues and implement improvements within own level of responsibility and according to organisational policies.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • oral or written questioning to assess knowledge and understanding of principles of relationship management and organisation's social, ethical and business standards • presentation of examples of actions taken by the candidate to build networks and contribute to positive workplace relationships and outcomes.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other management or frontline managementunits.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Information may include:	• archived, filed and historical background data • electronic or manual transmission • individual and team performance data • marketing and customer-related data • organisation policies and procedures • planning and organisational documents including the outcomes of continuous improvement and quality assurance • written or verbal communications

Sources of information may be:	• external, such as:
	  • external customers
	  • web based resources
	  • reports
	• internal, such as:
	  • supervisors, managers and peers
	  • organisation policies and procedures
	  • workplace documents

Diverse audiences may include:	• persons with specific social, cultural and other needs that require a range of strategies and approaches including adjusting communication
Consultation processes may include:	• feedback to the work team and relevant personnel in relation to outcomes of the consultation process • opportunity for employees to contribute ideas and information
Relevant personnel may include:	• OHS committees and OHS representatives • people with specialist responsibilities • supervisors, managers and other employees • union representatives/groups
The organisation's social, ethical and business standards may refer to:	• implied standards such as honesty and respect relative to the organisation culture and generally accepted within the wider community

RANGE STATEMENT	

	• rewards and recognition for high performing staff
	• standards expressed in legislation and regulations such as anti-discrimination legislation
	• written standards such as those expressed in:
	  • vision and mission statements
	  • policies
	  • code of workplace conduct/behaviour
	  • dress code
	  • statement of workplace values

Colleagues, customers and suppliers may include:	• employees at the same level and more senior managers • internal and external contacts • people from a wide variety of social, cultural and ethnic backgrounds • team members
Workplace networks may be:	• formal or informal • individuals or groups • internal or external • structured or unstructured
Workplace outcomes may include:	• OHS processes and procedures • performance of the work team
Poor work performance may relate to:	• self or work team; or it may extend to the organisation as a whole

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Frontline Management

Co-requisite units

Co-requisite units		

BSBFLM305C Support operational plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to provide support for operational practices and procedures within the organisation's productivity and profitability plans. This includes contributing to the operational plan, assisting in recruiting employees and acquiring resources, and monitoring and adjusting operational performance. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers are actively engaged in planning activities to achieve the measurable, stated objectives of the team and the organisation. This key role is carried out to provide safe, efficient and effective products and services to customer satisfaction within the organisation's productivity and profitability plans. At this level, work will normally be carried out within known routines, methods and procedures, and may also involve a number of complex or non routine activities that require some discretion and judgement. This unit is related to BSBMGT402A Implement operational plan.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Contribute to implementation of operational plan	1.1. Collect and record details of ***resource requirements*** and report to ***relevant personnel*** 1.2. Ensure the ***operational plan*** contributes to the achievement of the organisation's performance and business plan 1.3. Identify ***key performance indicators*** to measure own and work team's performance 1.4. Undertake ***contingency planning*** as required 1.5. Support the development and presentation of proposals for resource requirements as required
2. Assist in recruiting employees and acquiring resources	2.1. Assist with employee recruitment and/or induction as required, within ***the organisation's policies***, ***practices and procedures*** 2.2. Acquire physical resources and services according to the organisation's policies, practices and procedures and in consultation with relevant personnel
3. Support operations	3.1. Identify and utilise ***performance systems and processes*** to assess team progress in achieving plans and targets 3.2. Compare actual productivity and performance with identified short-term budgets, targets and performance results 3.3. Identify and report unsatisfactory performance to relevant personnel, to enable action to be taken to rectify the situation 3.4. Provide coaching to support individuals and teams to use resources effectively, economically and safely 3.5. Support ***consultation processes*** for the development and/or variation of the operational plan as required 3.6. Present recommendations for variation to operational plans to relevant personnel 3.7. Follow performance ***systems***, ***procedures and recording processes*** in accordance with organisation requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- coaching and mentoring skills to provide support to colleagues
- functional literacy skills to access and use workplace information
- skills to:
  - maintain a safe workplace and environment
  - access and use feedback to improve operational performance
  - prepare recommendations to improve operations
  - access and use established systems and processes.

Required knowledge

- principles and techniques of:
  - short-term operational scheduling
  - physical resources and services acquisition procedures and/or systems
  - budget and performance figures interpretation
  - performance monitoring within defined job role
  - performance reporting
  - problem identification and resolution
  - alternative approaches to improving resource usage and eliminating resource inefficiencies and waste within defined job role
- relevant legislation from all levels of government that may affect business operations, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination
- support for individuals and teams who have difficulty in performing to the required standard.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • sharing information with members of the work team about implementing and monitoring the operational plan • assisting in planning resource acquisition and usage including human resources, risk management and contingency planning • monitoring, analysing and reporting individual and team performance against identified targets.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.

Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
	• direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
	• records produced while working with the operational plan, such as:
	  • suggestions for variations to the operational plan
	  • rosters and staff allocation
	  • short-term resource acquisition planning, contingency planning and/or risk management plans
	  • induction programs conducted
	  • suggestions and input into management decisions related to the operational plan
	  • records of actions taken to address day-to-day resource shortfalls.

Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

EVIDENCE GUIDE	
	• BSBFLM303C Contribute to effective workplace relationships • BSBFLM306C Provide workplace information and resourcing plans • BSBFLM312C Contribute to team effectiveness • BSBCMN311B Maintain workplace safety.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Resource requirements may include:	• purchasing or ordering of goods • stock requirements and requisitions • supply of resources.
Relevant personnel may include:	• colleagues, supervisors and managers • OHS committees and other people with specialist responsibilities • specialist resource managers • unions/employee groups • other employees.
Operational plan may include:	• organisational plans • tactical plans developed by the department or section to detail product and service performance.
Key performance indicators may refer to:	• measures for monitoring or evaluating the efficiency or effectiveness of a system, and which may be used to demonstrate accountability and identify areas for improvements.
Contingency planning may refer to:	• contracting or outsourcing human resource and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials and consumables • increasing sales or production • recycling and re-use • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or

RANGE STATEMENT	
	consumables • succession planning.
The organisation's policies practices and procedures may include:	• organisational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • organisational culture • Standard Operating Procedures • undocumented practices in line with organisational operations.

Performance systems and processes may be:	• formal or informal processes within the organisation, such as:
	  • Key Performance Indicators (KPIs)
	  • specified work outcomes
	  • individual and team work plans
	  • feedback arrangements
	• informal systems used in the place of existing organisation-wide systems.

Consultation processes may refer to:	• mechanisms used to provide feedback to the work team in relation to outcomes of consultation • meetings, interviews, brainstorming sessions, email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans.
Performance systems, procedures and recording processes may include:	• databases and other recording mechanisms • individual and team performance plans • organisational policies and procedures relative to performance.

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Frontline Management

Co-requisite units

Co-requisite units		

BSBFLM306C Provide workplace information and resourcing plans

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to support the information management system. It involves the identification, acquisition, initial analysis and use of appropriate workplace information. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers, in supporting the processes of identifying, acquiring, analysing and using appropriate information, play a significant part in the organisation's effectiveness. At this level, work will normally be carried out within known routines, methods and procedures, and may also involve a number of complex or non routine activities that require some discretion and judgement. This unit is related to BSBINM401A Implement workplace information system.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Locate relevant information	1.1. Identify and locate ***information*** required by teams 1.2. Acquire and review information according to organisational procedures 1.3. Apply ***plans and procedures*** to obtain information which is not immediately available/accessible
2. Collect and report information	2.1. Collect information relevant to the needs of teams in an adequate and timely manner 2.2. Ensure information acquired is in a format suitable for analysis, interpretation and dissemination 2.3. Use information to identify and report relevant trends and developments to ***relevant personnel***, within the limits of own role
3. Use information systems	3.1. Effectively use ***management information systems*** to store and retrieve data 3.2. Use available ***technology*** to manage information effectively 3.3. Report recommendations for improving information system to ***designated persons and/or groups***
4. Support the preparation of business plan and/or budgets	4.1. Effectively utilise the contribution of the work team when preparing ***business plans and/or budgets*** to gain support for the outcomes 4.2. Present and record information to support the preparation of business plans and/or budgets in accordance with the organisation's guidelines and requirements 4.3. Follow ***contingency plans*** in the event that alternative action is required
5. Support the preparation of resource proposals	5.1. Consult with ***colleagues*** to collect ***resource planning data*** as required 5.2. Report estimated resource needs and usage according to organisational requirements as necessary 5.3. Facilitate ***resourcing*** within limits of own role

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- coaching and mentoring skills to provide support to colleagues
- communication and research skills covering information collection, analysis and reporting
- functional literacy skills to access and use workplace information
- information preparation skills
- skills to improve information usage in decision making
- technical skills to extract and input information

Required knowledge

- a general understanding of:
  - workplace information systems
  - operational plans and budgets
  - resource proposals
- basic financial concepts relating operational plans and budgets
- methods to gain efficiencies in operational resource management
- relevant legislation from all levels of government which may affect business operations, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • using management information system to collect, store and retrieve data supporting the preparation of business plans and/or budgets • involving the work team in planning and budget preparation • estimating resource needs and usage according to organisational requirements and allocating or acquiring resources within limits of own role.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.

Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
	• direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
	• records produced from working in a team, such as:
	  • reports
	  • minutes or records of meetings
	  • work journals or diaries
	  • learning and development plans developed with team members
	• records of actions taken to address issues raised by team members.

Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • BSBCUS301A Deliver and monitor a service to customers • BSBFLM305C Support operational plan • BSBFLM312C Contribute to team effectiveness

EVIDENCE GUIDE	
	• BSBCMN311B Maintain workplace safety.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Information may include:	• archived, filed and historical background data • continuous improvement and quality assurance data • data available internally or externally • data shared and retrieved in various forms such as in writing or verbally, electronically or manually • financial and contractual data • marketing and customer-related data • organisational performance data • planning and organisational documents • policies and procedures.
Plans and procedures may include:	• action plans, project plans or more formal planning tools in line with organisational procedures and levels of own responsibility • informal documents outlining a series of planned actions or steps • organisational procedures such as Standard Operating Procedures, record keeping procedures • organisational processes and procedures used to obtain information, with consideration given to meeting legislative requirements, such as privacy, anti-discrimination.
Relevant personnel may include:	• colleagues and specialist resource managers • OHS committees and OHS representatives • supervisors, managers and other staff/employees • other people with specialist responsibilities.
Management information systems may be:	• the entire infrastructure of an organisation, including personnel, and the components for the collection, processing, storage, transmission, display, dissemination, and disposition of information.

RANGE STATEMENT	
Technology may include:	• computerised systems and software such as databases, project management and word-processing • telecommunications devices • other technology available in the workplace and used to carry out work roles and responsibilities.
Designated persons or groups may include:	• groups designated in workplace policies and procedures • the frontline manager's supervisors or others with management roles and responsibilities concerning information systems • other stakeholders accessing the information system such as customers and service providers • other work groups or teams whose work will be affected by the system.
Business plans and/or budgets may refer to:	• cash flow projections • long or short term budgets/plans relative to own responsibilities • operational plans • spreadsheet-based financial projections • targets or Key Performance Indicators (KPIs) for production, productivity, wastage, sales, income and expenditure.
Contingency plans will usually be developed by others and may include:	• contracting out or outsourcing human resource and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials and consumables • increasing sales or production • recycling and re-use • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables.

RANGE STATEMENT	
Colleagues may include:	• employees at the same level or more senior managers • OHS representatives • people from a wide variety of social, cultural and ethnic backgrounds and physical and mental abilities • team members.
Resource planning data may relate to:	• buildings/facilities • equipment/technology • finance • information • people • power/energy • targets or Key Performance Indicators (KPIs) for production, productivity, wastage, sales, income and expenditure • time.
Resourcing may include:	• purchasing or ordering of goods • stock requirements/requisitions • supply of resources.

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Frontline Management

Co-requisite units

Co-requisite units		

Co-requisite units		

BSBFLM309C Support continuous improvement systems and processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the outcomes required to support the organisation's continuous improvement systems and processes. Particular emphasis is on actively encouraging the team to participate in the process, on monitoring and reporting on specified outcomes and on supporting opportunities for further improvements. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit replaces BSBFLM309A Support continuous improvement systems and processes. Frontline managers have an active role in supporting continuous improvement processes in achieving the organisation's objectives. Their position, closely associated with the creation and delivery of products and services, means that they have an important responsibility in influencing the ongoing development of the organisation. At this level, work will normally be carried out within known routines, methods and procedures, and may also involve a number of complex or non-routine activities that require some discretion and judgement. Consider co-assessment with BSBFLM305C Support operational plan, BSBFLM312C Contribute to team effectiveness, BSBCUS301A Deliver and monitor a service to customers, BSBCMN311B Maintain workplace safety, and BSBFLM311C Support a workplace learning environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Contribute to continuous improvement systems and processes	1.1. Actively encourage and support team members to participate are in decision making processes and to assume responsibility and exercise initiative 1.2. ***Communicate*** the organisation's ***continuous improvement processes*** to individuals and teams 1.3. Effectively utilise ***mentoring and coaching*** to ensure that individuals/teams are able to support the organisation's continuous improvement processes
2. Monitor and report on specified outcomes	2.1. Utilise the organisation's ***systems*** and ***technology*** to monitor team progress and to identify ways in which planning and operations could be improved 2.2. Apply continuous improvement techniques and processes to improve ***customer service***
3. Support opportunities for further improvement	3.1. Communicate ***agreed recommendations*** for improvements in achieving the business plan to team members 3.2. Document and use work performance to identify opportunities for further improvement 3.3. Maintain records, reports and recommendations for improvement within the organisation's systems and processes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- functional literacy skills to access and use workplace information
- research, analysis, interpretation and reporting skills
- monitoring and evaluation skills
- communication skills to:
  - gain the commitment of individuals and teams to continuous improvement
  - deal with people openly and fairly
  - use consultation skills effectively
- skills to consolidate opportunities for improvement
- coaching and mentoring skills to provide support to colleagues

Required knowledge

- legislation from all levels of government that affects business operation, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination
- principles and techniques of:
  - continuous improvement systems and processes
  - benchmarking
  - best practice
- benefits of continuous improvement
- quality approaches which the organisation may implement
- methods that can be used in continuous improvement
- barriers to continuous improvement
- recording, reporting and recommendation processes to facilitate continuous improvement applied within the organisation

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • examples of actions taken by the candidate to support continuous improvement including: • use of work performance to identify improvement • adjusted plans to reflect changes • effective communication to all stakeholders • use of technology to monitor operational progress • application of suitable recordkeeping processes.
Context of and specific resources for assessment	Assessment must ensure: • access by the learner and trainer to appropriate documentation and resources normally used in the workplace • that this unit is assessed in the workplace or in a closely simulated work environment.

Method of assessment	A range of assessment methods should be used to assess skills and knowledge. The following examples are appropriate for this unit:
	• Direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
	• Review of records supporting the organisation's continuous improvement systems and processes, such as:
	  • contributions to organisational policies and procedures
	  • contributions to procedures and policies for dealing with continuous improvement processes, and related codes of conduct
	  • actions taken to address information collection, retrieval and use in the workplace
	  • actions taken to address issues and problems within work team
	  • actions taken to address methods of reporting

EVIDENCE GUIDE	
	information • learning and development plans for team members • materials developed for coaching, mentoring and training • induction programs developed and/or delivered • actions taken to address internal and external information management issues • reviews of people management • advice and input into management decisions related to continuous improvement • records of people management lessons learned.
Guidance information for assessment	This unit should be assessed with other frontline management units taken as part of this qualification, as applicable to the candidate's leadership role in a work team, and as part of a holistic assessment activity.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Legislation, codes and national standards relevant to the workplace may include:	• award and enterprise agreements and relevant industrial instruments • relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety (OHS) and environmental issues, equal opportunity, industrial relations and anti-discrimination • relevant industry codes of practice.
OHS considerations may include:	• provision of information about OHS legislative requirements and guidelines, and the organisation's OHS policies, procedures and programs • participation in the regular update of OHS systems and procedures • implementation of the continuous improvement processes of the OHS management system • changes to work practices, procedures and the working environment which impact on OHS • organisation's responsibilities to customers and suppliers.
Methods used to ***communicate*** with individuals and team may include:	• verbal, written or electronic communications • on-the-job mentoring and coaching.
Continuous improvement processes may include:	• policies and procedures which allow an organisation to systematically review and improve the quality of its products, services and procedures • cyclical audits and reviews of workplace, team and individual performance • seeking and considering feedback from a range of stakeholders • modifications and improvements to systems,

RANGE STATEMENT	
	processes, services and products • evaluations and monitoring of effectiveness.
Mentoring and coaching may refer to:	• teaching another member of the team, usually focusing on a specific work task or skill • providing feedback, support and encouragement on a range of matters • providing assistance with problem solving.
Systems may include:	• organisation policies and procedures • web based communication devices • attendance at forums, meetings • newsletters and reports.
Technology may include:	• computerised systems and software such as databases, project management and word-processing • telecommunications devices • any other technology used to carry out work roles and responsibilities.
Customer service may be:	• internal or external, to existing or new clients • identifying needs and priorities in delivering a service to customers • understanding of different levels of customer satisfaction.
Agreed recommendations may be:	• identified improvements arising from the continuous improvement process • determined in accordance with organisational policies and procedures

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and leadership - Frontline Management

Co-requisite units

Co-requisite units		

BSBFLM311C Support a workplace learning environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to effectively encourage and support a learning environment. Particular emphasis is on participation in processes to facilitate and promote learning and to monitor and improve learning performance. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers have a prominent role in encouraging and supporting the development of a learning environment in which work and learning come together. At this level, work will normally be carried out within known routines, methods and procedures, and may also involve a number of complex or non-routine activities that require some discretion and judgement. This unit is related to BSBLED401A Develop teams and individuals.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Encourage a learning environment	1.1. Encourage and support workplace ***learning opportunities*** 1.2. Implement ***learning plans*** as an integral part of individual and team performance plans 1.3. Implement learning plans to reflect ***diversity of needs*** and learning opportunities 1.4. Encourage individual and team access to, and participation in, learning opportunities 1.5. Liaise effectively with ***training and development specialists*** to contribute to learning opportunities which enhance individual, team and organisational performance
2. Encourage and promote learning of team and individuals	2.1. ***Promote a learning culture*** within the team and organisation 2.2. Support ***coaching and mentoring*** for the development of workplace knowledge, skills and attitudes 2.3. Encourage team members to assess own competencies, and to identify own ***learning and development needs*** 2.4. Share the benefits of learning with others in the team and organisation 2.5. Provide recognition and feedback for ***workplace achievement*** in a timely and appropriate manner
3. Identify opportunities for improvement	3.1. Monitor the performance of individuals and teams to determine the type and extent of required work-based support 3.2. Gather feedback from individuals and teams to identify opportunities for improving future learning arrangements 3.3. Negotiate adjustments with training and development specialists to improve the efficiency and effectiveness of learning 3.4. Record, document and report learning outcomes in accordance with the organisation's systems and procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- coaching and mentoring skills to support learning
- communication skills to:
  - gain the trust and confidence of colleagues
  - deal with people openly and fairly
  - use consultation skills effectively
- culturally appropriate communication skills to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- functional literacy skills to access and use workplace information
- skills in facilitating learning, including:
  - identifying learning needs
  - developing learning plans
  - selecting and using work activities to create learning opportunities
  - establishing a workplace conducive to learning
  - negotiating learning arrangements with training and development specialists
  - encouraging colleagues to share their knowledge and skills
  - evaluating the effectiveness of learning

Required knowledge

- principles and techniques of:
  - adult learning
  - a learning environment and learning culture
  - work based learning
  - structuring learning
  - coaching and mentoring
- relevant legislation from all levels of government that may affect business operation, especially in regard to:
  - occupational health and safety
  - environmental issues
  - equal opportunity and anti-discrimination
  - industrial relations

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • liaising with stakeholders, especially members of the work team, to develop, promote and maintain a workplace learning environment • developing learning plans and arranging learning opportunities in line with identified needs • compiling and interpreting data about learning arrangements and outcomes in accordance with organisational requirements.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • oral or written questioning to assess knowledge and understanding of workplace learning principles and organisational procedures and policies for applying learning systems • presentation of examples of actions taken by the candidate to support a workplace learning environment • review of materials developed for coaching, mentoring and training.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • BSBCUS301A Deliver and monitor a service to customers • BSBFLM305C Support operational plan • BSBFLM312C Contribute to team effectiveness

EVIDENCE GUIDE	
	• BSBCMN311B Maintain workplace safety • BSBWOR301A Organise personal work priorities and development.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Learning opportunities may include:	• action learning
	• coaching
	• exchange/rotation
	• induction
	• mentoring
	• shadowing
	• short courses
	• structured learning activities conducted outside and within the workplace such as:
	  • accredited training through an independent organisation such as a State OHS authority
	  • training through an RTO leading to a nationally recognised Australian Qualifications Framework (AQF) qualification or Statement of Attainment, for example through a traineeship or Australian Apprenticeship
	• workplace learning activities, that may also contribute to a recognised credential, such as:
	  • workshops.

Learning plans may include:	• codes of conduct • key performance indicators (KPI) • negotiated agreement with individual • OHS requirements • performance standards • team competencies • team roles and responsibilities • work outputs and process.
Diversity of needs may include:	• different learning needs that relate to social, cultural and other types of workplace diversity, such as the need for varied communication styles and approaches.
Training and development	• internal or external.

RANGE STATEMENT	
specialists may be:	
Promoting a learning culture may include:	• encouraging learning and sharing of skills and knowledge across the work team and the wider organisation in order to develop competencies of team members and the team • informally supporting and recognising learning achievements and sharing success stories • promoting participation and learning opportunities • using formal processes to reward training participation in line with organisational processes • utilising workplace activities as opportunities for learning.
Coaching and mentoring may refer to:	• providing assistance with problem solving • providing feedback, support and encouragement on a range of matters • teaching another member of the team, usually focusing on a specific work task or skill.
Learning and development needs may include:	• developmental learning, for example the learning required to progress through an organisation and take on new tasks and roles • gaps between the competencies held by the employee and the skills and knowledge required to effectively undertake workplace tasks.
Workplace achievement may refer to:	• achievements of set goals and performance outcomes by the work team and/or individuals.

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Frontline Management

Co-requisite units

Co-requisite units		

BSBFLM312B Contribute to team effectiveness

Modification History

Not Applicable

Unit Descriptor

This specifies the outcomes required to by frontline managers to contribute to the effectiveness of the work team. It involves planning with the team to meet expected outcomes, developing team cohesion, participating in and facilitating the work team, and communicating with the management of the organisation.
No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Frontline managers have a key role in developing efficient and effective work teams within the context of the organisation. They play a prominent part in motivating, mentoring, coaching and developing team cohesion by providing leadership for the team and forming the bridge between the management of the organisation and the team members.
At this level, work will normally be carried out within known routines, methods and procedures, and may also involve a number of complex or non routine activities that require some discretion and judgement.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Contribute to team outcomes	1.1. Consult team members to identify ***team purpose***, ***roles***, ***responsibilities***, ***goals***, ***plans and objectives*** 1.2. Support team members to meet expected outcomes
2. Support team cohesion	2.1. Encourage team members to participate in the planning, decision making and operational aspects of the work team to their level of responsibility 2.2. Encourage team members to take responsibility for their own work and to assist each other in undertaking required roles and responsibilities 2.3. Provide ***feedback*** to team members to encourage, value and reward team members' efforts and contributions 2.4. Identify and address issues, concerns and problems identified by team members to ***relevant persons*** as required
3. Participate in work team	3.1. Actively encourage and support team members to participate in team activities and communication processes and to take ***responsibility for their actions*** 3.2. Support the team to identify and resolve problems which impede its performance 3.3. Utilise own contribution to work team to serve as a role model for others and enhance the organisation's image within the work team, the organisation and with clients/customers
4. Communicate with management	4.1. Maintain open ***communication*** with ***line manager/management*** at all times 4.2. Communicate information from line manager/management to the team 4.3. Communicate ***unresolved issues*** to line manager/management and follow-up to ensure action is taken in response to these matters

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills

- ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- communication skills, including listening
- basic training skills, including mentoring and coaching
- planning and organising skills
- problem solving skills
- attributes:
  - empathic
  - communicative
  - self aware
  - supportive
  - trusting
  - open
  - flexible
  - accommodating
  - initiating
  - loyal
  - fair
  - adaptable

Required knowledge

Required knowledge

- relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination
- organisational policies and procedures
- organisational goals, objectives and plans at both tactical and strategic levels
- organisational structure including organisational chart
- learning and development options available within and through organisation
- a general understanding of the principles and techniques of:
  - group dynamics and processes
  - motivation
  - planning
  - negotiation

- individual behaviour and difference

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • managed communication consultations processes in relation to: • team cohesion • performance plan • induction process for new team members • performance management system implementation • handling problems • management advice in relation to human resource management of the work team
Context of and specific resources for assessment	Assessment must ensure: • that this unit can be assessed in the workplace or in a closely simulated work environment • access by the learner and trainer to appropriate documentation and resources normally used in the workplace • where assessment is part of a learning experience, evidence will need to be collected over a period of time, involving both formative and summative assessment • that examples of actions taken by candidate to contribute to team effectiveness are provided

Method of assessment	A range of assessment methods should be used to assess skills and knowledge. The following examples are appropriate for this unit:
	• Direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate
	• Records produced from working in a team, such as:
	  • reports
	  • minutes or records of meetings
	  • work journals or diaries

	• learning and development plans developed with team members • records of actions taken to address issues raised by team members
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Legislation, codes and national standards relevant to the workplace may include:	• award and enterprise agreements and relevant industrial instruments • relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety (OHS) and environmental issues, equal opportunity, industrial relations and anti-discrimination • relevant industry codes of practice
OHS considerations may include:	• provision of information about OHS legislative requirements, guidelines and the organisation's OHS policies, procedures and programs • training of all employees in health and safety procedures • participation in the regular update of OHS systems and procedures • changes to work practices, procedures and the working environment which impact on OHS
Team purpose, ***roles***, ***responsibilities***, ***goals***, ***plans and objectives*** may include:	• goals for individuals and the work team • expected outcomes and outputs • individual and team performance plans and Key Performance Indicators (KPIs) • action plans, business plans and operational plans linked to strategic plans • OHS responsibilities
Feedback may refer to:	• communication of ideas and thoughts which focus on specific tasks, outcomes, decisions, issues or behaviours • formal/informal gatherings between team members where there is discussion on work-related matters
Relevant persons may include:	• frontline manager's direct superior or other management representatives • colleagues

	• designated personnel e.g. safety officer
Responsibility for their actions may involve:	• individuals and teams • individual and joint actions
Communication may include:	• verbal, written or electronic communication • face-to-face • formal/informal interaction
Line manager/management may refer to:	• frontline manager's direct superior or other management representatives
Unresolved issues may include:	• issues, concerns and tensions • problems related to work roles and responsibilities • grievances and complaints • any matters affecting workplace relationships and team cohesion

Unit Sector(s)

Management and Leadership - Frontline Management services

BSBINM401A IMPLEMENT WORKPLACE INFORMATION SYSTEM

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to implement the workplace information system. It involves the identification, acquisition, initial analysis and use of appropriate information, which plays a significant part in the organisation's effectiveness. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers play a significant role in contributing to the organisation's effectiveness in identifying, acquiring, analysing and using appropriate information. At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning and evaluation, leadership and guidance of others, and some discretion and judgement.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and source information needs	1.1. Determine and locate ***information*** required by teams 1.2. Acquire and review information held by the organisation to determine suitability, accessibility, currency and reliability according to ***organisational policies***
2. Collect, analyse and report information	2.1. Collect information, which is adequate and relevant to the needs of teams, in a timely manner 2.2. Ensure information is in a format suitable for analysis, interpretation and dissemination 2.3. Analyse information to identify and report relevant trends and developments in terms of the needs for which it was acquired
3. Implement information systems	3.1. Implement management information systems effectively to store, retrieve and regularly review data for decision making purposes 3.2. Use ***technology*** available in the work area to manage information effectively 3.3. Submit recommendations for improving the information system to ***designated persons and/or groups***
4. Prepare for information system changes	4.1. Collect information about information system future needs in consultation with ***colleagues***, including those who have a specialist role in resource management 4.2. Ensure estimates of information system future needs reflect the organisation's ***business plans***, and customer and supplier requirements 4.3. Support proposals to secure resources by clearly presenting submissions that describe realistic options, benefits, costs and outcomes 4.4. Prepare team members to work with new technology and information system changes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to work with information, and to research and present information in ways that are appropriate to the work team
- technology skills to work with a range of information systems.

Required knowledge

- information management systems and technology that would be associated with the workplace such as:
  - budgets and financial management systems
  - customer information software or records
  - databases
  - personal digital assistant (PDA)
  - product and service information
  - project management software
  - record management systems
  - spreadsheets.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • analysis of the information that is required for the effective functioning of the team's work together • knowledge of the range of information systems that are, or should be, available in the workplace • ability to recognise what information system changes and improvements will be required in the future.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • demonstration of techniques in working with information management systems • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • oral or written questioning to assess knowledge of relevant technology • review of documentation analysing information trends and developments • written reports on future information system needs • review of preparation undertaken for team members to work with new technology and information system changes.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Information may include:	• archived, filed and historical background data • continuous improvement and quality assurance data • data available internally or externally • data shared and retrieved in various forms such as in writing or verbally, electronically or manually • financial and contractual data • marketing and customer-related data • organisational performance data • planning and organisational documents • policies and procedures
Organisational policies may include:	• guidelines for decision making throughout the organisation that link the formulation of strategy with its implementation • sets of accepted actions approved by the organisation • Standard Operating Procedures
Technology may include:	• computerised systems and software such as databases, project management and word processing • telecommunications devices • any other technology used to carry out work roles and responsibilities
Designated persons and/or groups may include:	• groups designated in workplace policies and procedures • managers or supervisors with management roles and responsibilities concerning information systems • other stakeholders accessing the information system such as customers and service providers • other work groups or teams whose work will be affected by the system

RANGE STATEMENT	
Colleagues may include:	• employees at the same level or more senior managers • occupational health and safety committee members and other specialists • people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities • team members
Business plans may include:	• cash flow projections • long-term budgets/plans • operational plans • short-term budgets/plans • spreadsheet-based financial projections • targets or key performance indicators for production, productivity, wastage, sales, income and expenditure

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBINM501A Manage an information or knowledge management system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to organise learning to use an information or knowledge management system and to manage the use of the system. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to managers who have responsibility for seeing that key information and corporate knowledge are retained, accessible to others and improve business outcomes. The unit does not address the requirement to select the technical system (software or hardware), which is seen as the role of an information technology specialist, although in some smaller organisations this may be a part of the manager's role.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Organise learning to use information or knowledge management system	1.1. Identify learning needs of ***relevant personnel*** and ***stakeholders*** for input into, and use of, ***an information or knowledge management system*** 1.2. Identify and secure human, financial and physical resources required for ***learning activities*** to use an information or knowledge management system 1.3. Organise and facilitate learning activities 1.4. Promote and support use of the system throughout the organisation 1.5. Monitor and document effectiveness of learning activities
2. Manage use of information or knowledge management system	2.1. Ensure implementation of ***policies and procedures for the information or knowledge management system*** are monitored for compliance, effectiveness and efficiency 2.2. Address implementation issues and problems as they arise 2.3. Monitor integration and alignment with data and information systems 2.4. Collect information on achievement of ***performance measures*** 2.5. Manage contingencies such as system failure or technical difficulties by accessing technical specialist help as required
3. Review use of information or knowledge management system	3.1. Analyse effectiveness of system and report on strengths and limitations of the system 3.2. Review business and operational plan and determine how effectively the system is contributing to intended outcomes 3.3. Make recommendations for improvement to system, policy or work practices

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical and problem-solving skills to ensure the system is working in accordance with organisational expectations and to deal with contingencies
- technology skills to work with and manage the use of the information or knowledge management system.

Required knowledge

- legislation, codes of practice and national standards, for example:
  - privacy and confidentiality legislation
  - freedom of information legislation
  - AS 5037:2005 Knowledge management - A guide
- organisational policies and procedures, for example:
  - records management
  - information management
  - customer service
  - commercial confidentiality
- organisational operations, and existing data and information systems.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • analysis of the strengths and weaknesses of information or knowledge management system/s and evaluation of suitability for a particular work or organisational context • knowledge of relevant legislation, codes of practice and national standards.
Context of and specific resources for assessment	Assessment must ensure: • access to system • access to system user feedback.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • assessment of written reports reviewing and evaluating information or knowledge management systems • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of relevant organisational policies and procedures • review of identified learning needs personnel and stakeholders regarding the information or knowledge management system • evaluation of monitoring and documentation about the effectiveness of learning activities • analysis documentation reporting on the strengths and limitations of the system • review of recommendations made for improvements to the system, policy or work practices.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,

EVIDENCE GUIDE	
	for example: • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Relevant personnel include:	• managers, leaders, supervisors and coordinators • owners • staff, team members and colleagues
Stakeholders include:	• clients and customers • employee representatives • funding bodies • industry, professional and trade associations • regulatory bodies and authorities • sponsors • tenderers, suppliers and contractors
Information or knowledge management is defined as:	• equipment, strategies, methods, activities and techniques used formally and informally by individuals and the organisation to identify, collect, organise, store, retrieve, analyse, share and draw on information and knowledge valuable to the work of the organisation
An information or knowledge management system:	• comprises policies, protocols, procedures and practices to manage information or knowledge within the organisation and among relevant stakeholders
Learning activities include:	• coaching and mentoring programs • help desks • information sessions, briefings, workshops and training programs • paper-based or electronic (including intranet) learning opportunities • use of expert workers such as coaches and mentors to help other personnel use the system
Policies and procedures for the information or knowledge management system cover:	• complying with legislative requirements (such as privacy, confidentiality and defamation requirements) and other policies and procedures • content guidelines

RANGE STATEMENT	
	• ensuring accuracy and relevance of knowledge input into the system • mechanisms, formats and styles of input to system, including appropriate alternative formats for people with a disability • permissions for input • removing out-of-date, inaccurate and content that is no longer relevant • selecting, maintaining and disposing of knowledge in the system • sharing knowledge in the system
Performance measures include:	• key performance indicators • other systems and measures to enable assessment of how, when, where and why outcomes are being achieved • performance objectives • performance standards (including codes of conduct) • qualitative or quantitative mechanisms to measure individual performance

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBINN301A Promote innovation in a team environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to be an effective and pro active member of an innovative team. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies individuals who play a pro active role in demonstrating, encouraging or supporting innovation in a team environment. The individual may be a team participant or a team leader. The team may 'make itself' or be constructed by others. It may have core members and members who participate at certain times or for particular purposes. It may be permanent or temporary, or come together at different times to work on specific projects. The team could consist of a team of contractors/freelancers, permanent staff, clients and service providers, or any combination of these groups. It may operate within an organisation or across several organisations - or simply across a group of individuals. The key focus of the unit is on what makes for an innovative team, what keeps it working well, how the structure of work can make a difference and what skills and knowledge are needed to maximise opportunities for innovation. Where a greater focus on team leadership is required this unit should be combined with units such as BSBLED401A Develop teams and individuals.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Create opportunities to maximise innovation within the team	1.1. Evaluate and reflect on ***what the team needs and wants to achieve*** 1.2. Check out ***information about current or potential team members' work*** in the context of developing a more innovative team 1.3. Bring people into the team or make suggestions for team members based on what needs to be achieved and the potential for cross-fertilising ideas 1.4. Acknowledge, respect and discuss the ***different ways that different people may contribute*** to building or enhancing the team
2. Organise and agree effective ways of working	2.1. Jointly establish ***ground rules*** for how the team will operate 2.2. Agree and communicate responsibilities in ways that encourage and reinforce ***team-based innovation*** 2.3. Agree and share tasks and activities to ensure the best use of skills and abilities within the team 2.4. Plan and schedule activities to allow time for thinking, challenging and collaboration 2.5. Establish personal reward and stimulation as an integral part of the team's way of working
3. Support and guide colleagues	3.1. Model ***behaviour that supports innovation*** 3.2. Seek ***external stimuli and ideas*** to feed into team activities 3.3. Pro-actively share information, knowledge and experiences with other team members 3.4. Challenge and test ideas within the team in a positive and collaborative way 3.5. Pro-actively discuss and explore ideas with other team members on an ongoing basis
4. Reflect on how the team is working	4.1. De-brief and reflect on activities and on opportunities for improvement and innovation 4.2. Gather and use feedback from within and outside the team to generate discussion and debate 4.3. Discuss the ***challenges of being innovative*** in a constructive and open way 4.4. Take ideas for improvement, build them into future activities and communicate key issues to relevant colleagues 4.5. Identify, promote and celebrate successes and

ELEMENT	PERFORMANCE CRITERIA
	examples of successful innovation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
• communication skills to work collaboratively as part of a team, to provide guidance and support to others, and to participate in open and constructive discussions • creative thinking skills to generate, explore, test and challenge ideas • learning skills to stretch boundaries of own knowledge and skills • literacy skills to analyse a wide range of information from varied sources • planning and organisational skills to participate in the effective allocation of work in a team context • problem-solving skills to work constructively to overcome issues and challenges of both a practical and conceptual nature and to make ideas become realities • self-management skills to take a pro-active team role and to reflect on own performance in modelling and encouraging behaviour that supports innovation.
Required knowledge
• barriers to innovation that can occur within a team and broader barriers that sometimes hinder innovation • broad concepts of innovation including what innovation is, different types of innovation and the benefits of innovation • characteristics of teams that are more likely to be innovative and characteristics of broader environments that support and encourage innovation • different roles that people may play within a team, how this impacts on the way a team works and what it might achieve • group dynamics in a team.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • active participation in a team where the team takes a pro-active and considered approach to innovation and innovative practice • collaborative and open communication within the team • knowledge and understanding of the internal and external factors that contribute to a team becoming and remaining innovative.
Context of and specific resources for assessment	Assessment must ensure: • demonstration of skills as part of a team.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • direct observation of team interactions • evaluation of reports by the candidate or the team (could be oral or written) discussing the ideas, challenges and opportunities associated with teams, and how they can be more innovative • evaluation of feedback from other people in the team about the candidate's communication approaches and abilities • oral or written questioning to assess knowledge of the characteristics of innovative teams, innovation concepts more broadly and they ways in which innovation can be encouraged • review of jointly established 'groundrules' for how the team will operate.
Guidance information for assessment	Innovation does not occur in isolation. Holistic assessment with other units relevant to the industry sector, workplace and job role is highly recommended.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
What the team needs and wants to achieve may relate to:	• addressing particular customer feedback • conceiving and implementing a particular project • developing new services or products • generating ongoing ideas within the work unit • improving budgetary performance • improving or changing work conditions • new ideas that impact beyond the workplace (e.g. that have a broader social or community impact)
Information about current or potential team members' work may relate to:	• interests • lifestyle preferences • past jobs • technical strengths • work preferences • working styles
Different ways that different people may contribute may relate to individual strengths around:	• creating positive energy within the team • fundamental literacy strengths (e.g. particularly strong in visual literacy, written or spoken communication) • generating ideas • networks or spheres of influence • particular ways of thinking • powers of persuasion • problem-solving capacities • specific technical skills or knowledge
Ground rules may relate to:	• boundaries or lack of boundaries for team activities and ideas • confidentiality • copyright, moral rights or intellectual property • regularity of communication • key roles and responsibilities • time lines

RANGE STATEMENT	
	• ways of communicating
Team-based innovation may be encouraged through:	• accessing training and learning opportunities • enough but not too much guidance and structure • equitable sharing of workload • follow-through with ideas • supportive communication
Behaviour that supports innovation may include being:	• collaborative • equitable • fair • fun • hardworking • reflective • responsible • sympathetic
External stimuli and ideas might be from:	• Australia or overseas • colleagues outside of the team • family and friends • internet • journals • networks or technical experts • other organisations
Challenges of being innovative may relate to:	• budgetary or other resource constraints • competing priorities • organisational culture • problems with breaking old patterns of behaviour or thinking • time pressures

Unit Sector(s)

Unit sector	

Competency field

Competency field	Creativity and Innovation - Innovation

Co-requisite units

Co-requisite units		

BSBINN502A Build and sustain an innovative work environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to create an environment that enables and supports the application of innovative practice. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to individuals working in leadership or management roles in any industry or community context. The individual could be employed by the organisation, but may also be an external contractor, the leader of a cross organisation team or of a self formed team of individuals. The work group could be permanent or temporary in nature. The unit focuses on the skills and knowledge required to develop and implement a holistic approach to the integration of innovation across all areas of work practice. It also acknowledges the importance of wider contextual evaluation for potential innovations to ensure their value and benefit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Lead innovation by example	1.1. Make innovation an integral part of ***leadership and management activities*** 1.2. Demonstrate positive reception of ideas from others and provide constructive advice 1.3. Establish and maintain relationships based on mutual respect and trust 1.4. Take considered ***risks*** to open up opportunities for innovation 1.5. Regularly evaluate own approaches for consistency with the wider organisational or project context
2. Establish work practices that support innovation	2.1. Consult on and establish ***working conditions*** that reflect and encourage innovative practice 2.2. Introduce and maintain ***workplace procedures*** that foster innovation and allow for rigorous ***evaluation of innovative ideas*** 2.3. Facilitate and participate in ***collaborative work arrangements*** to foster innovation 2.4. Build and lead teams to work in ***ways that maximise opportunities for innovation***
3. Promote innovation	3.1. Acknowledge suggestions, improvements and innovations from all colleagues 3.2. Find appropriate ***ways of celebrating and promoting innovation*** 3.3. Promote and reinforce the value of innovation according to the vision and objectives of the organisation or project 3.4. Promote and support the evaluation of innovative ideas within the wider organisational or project context
4. Create a physical environment which supports innovation	4.1. Evaluate the ***impact of the physical environment*** in relation to innovation 4.2. Collaborate with colleagues about ideas for enhancing the physical work environment before taking action 4.3. Consider potential for supporting innovation when selecting physical resources and equipment 4.4. Design, fit-out and decorate workspaces to encourage creative mindsets, collaborative working and the development of positive workplace relationships

ELEMENT	PERFORMANCE CRITERIA
5. Provide learning opportunities	5.1. Pro-actively share relevant information, knowledge and skills with colleagues 5.2. Provide or encourage ***formal and informal learning opportunities*** to help develop the skills needed for innovation 5.3. Create opportunities in which individuals can learn from the experience of others

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, consultation and negotiation skills to model and lead, open and collaborative relationships
- comprehension skills to interpret and develop information that may deal with complex ideas and relate to issues both within and outside a given workplace context
- planning and organisational skills to implement wide-ranging practical processes and procedures that support innovation
- problem-solving skills to assess and respond to challenges and risks around innovation at an operational management level
- self-management and learning skills to evaluate and enhance personal effectiveness, and to promote a culture of ongoing learning and development.

Required knowledge

- benefits of providing coaching and learning opportunities in relation to innovation
- concept of innovation, what it is and what it means for different people either working independently or within an organisation
- context for innovation in the relevant workplace context including core business values, overall objectives, broader environmental context and the need to ensure the value and benefit of innovative ideas and projects
- different ways of rewarding performance
- factors and tools that can motivate individuals to use creative thinking and apply innovative work practices
- legislative framework that impacts on operations in the relevant workplace context
- management principles and leadership styles, including the impact of different approaches on innovation
- typical challenges and barriers to innovation within teams and organisations, and ways of overcoming these
- ways in which workplace climate can affect individual attitudes and performance.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • establishment of procedures and practices (for a project or a workplace) which support and foster innovative work practice and include sound evaluation processes • modelling of behaviour that supports innovative work practice • knowledge and understanding of the role of leaders and managers in encouraging innovation, and the issues and challenges associated with building and sustaining an innovative work environment.
Context of and specific resources for assessment	Assessment must ensure: • involvement of a team for which the candidate provides leadership and guidance.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • evaluation of outcomes and processes from activities managed by the candidate, particularly in relation to how innovation and innovative practice was encouraged and supported • oral or written questioning to assess knowledge of ways that innovation can be fostered and the typical challenges and barriers to innovation.
Guidance information for assessment	Innovation does not occur in isolation. Holistic assessment with other units relevant to the industry sector, workplace and job role is highly recommended.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Leadership and management activities may include:	• people management practices • planning processes • regular management meetings • review processes
Risks may include:	• budgetary issues • challenging changes in relationships, work practices and general workplace climate • unforseen impacts of innovative ideas
Working conditions may include:	• family-friendly leave entitlements • flexible working hours • social leave • study leave • time provided for coming up with ideas
Workplace procedures may relate to:	• briefing processes • client relations • performance management • project management • staff meetings • training
Evaluation of innovative ideas may relate to:	• analysing consistency with overall goals, values or vision • assessing resource requirements and practicalities • assessing the potential to find 'champions' or supporters • evaluating the external factors that may impact on the idea • exploring the implications of ideas that may stretch or change existing ways of doing things
Collaborative work arrangements might be:	• cross section • vertical teams • within a section • working with supplier organisations or partner

RANGE STATEMENT	
	organisations
Ways that maximise opportunities for innovation may relate to:	• collaborating • collecting data • creative thinking • future scanning • getting feedback • making suggestions • networking
Ways of celebrating and promoting innovation may include:	• congratulating the project team • ensuring management acknowledgment • providing a newsletter story about the idea • using the idea to help foster other ideas • well-planned group incentive schemes
Impact of the physical environment may relate to:	• eating areas • extent to which design or style links with declared philosophies or objectives • external areas • general ambience of the work environment • location of different people • presence and ambience of relaxation areas • style of dÃ©cor • use of creative messages or images in the workplace • workspace design and dÃ©cor • workstation arrangements and opportunities for interaction
Formal and informal learning opportunities may include:	• coaching • conferences • formal training courses/programs • information seminars • job rotation • mentoring • online learning

Unit Sector(s)

Unit sector	

Competency field

Competency field	Creativity and Innovation - Innovation

Co-requisite units

Co-requisite units		

BSBLED401A Develop teams and individuals

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to determine individual and team development needs and to facilitate the development of the workgroup. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to individuals with a broad knowledge of learning and development who apply their skills in addressing development needs to meet team objectives. They may have responsibility to provide guidance or to delegate aspects of tasks to others.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine development needs	1.1. Systematically identify and implement ***learning and development needs*** in line with ***organisational requirements*** 1.2. Ensure that a learning plan to meet individual and group training and development needs is collaboratively developed, agreed to and implemented 1.3. Encourage individuals to self-evaluate performance and identify areas for improvement 1.4. Collect ***feedback on performance*** of team members from relevant sources and compare with established team learning needs
2. Develop individuals and teams	2.1. Identify learning and development program goals and objectives, ensuring a match to the specific knowledge and skill requirements of competency standards relevant to the industry 2.2. Ensure that ***learning delivery methods*** are appropriate to the learning goals, the learning style of participants, and availability of ***equipment and resources*** 2.3. Provide workplace learning opportunities, and ***coaching and mentoring assistance*** to facilitate individual and team achievement of competencies 2.4. Create development opportunities that incorporates a range of activities and support materials appropriate to the achievement of identified competencies 2.5. Identify and approve resources and time lines required for learning activities in accordance with organisational requirements
3. Monitor and evaluate workplace learning	3.1. Use feedback from individuals or teams to identify and implement improvements in future learning arrangements 3.2. Assess and record outcomes and performance of individuals/teams to determine the effectiveness of development programs and the extent of additional development support 3.3. Negotiate modifications to learning plans to improve the efficiency and effectiveness of learning 3.4. Document and maintain records and reports of competency according to organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to receive and report on feedback, to maintain effective relationships and to manage conflict
- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- leadership skills to gain trust and confidence of clients and colleagues
- literacy skills to read, write and understand a variety of texts; and to edit and proofread documents to ensure clarity of meaning, accuracy and consistency of information
- negotiation skills to achieve mutually acceptable outcomes
- technology skills to support effective communication and presentation.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
  - anti-discrimination legislation
  - ethical principles
  - codes of practice
  - privacy laws
  - occupational health and safety (OHS)
- facilitation techniques to encourage team development and improvement
- organisational policies, plans and procedures
- career paths and competency standards relevant to the industry.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • identifying and implementing learning opportunities for others • giving and receiving feedback from team members to encourage participation in and effectiveness of team • creating learning plans to match skill needs • knowledge of relevant legislation.
Context of and specific resources for assessment	Assessment must ensure: • access to an actual workplace or simulated environment • access to office equipment and resources • examples of learning and development plans, policies and procedures • examples of documents relating to diversity policies and procedures.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • analysis of responses to case studies and scenarios • oral or written questioning to assess knowledge of career paths and competency standards relevant to the industry • review of records and reports of competency.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • management units • other learning and development units.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Learning and development needs may include:	• career planning/development • coaching, mentoring and/or supervision • formal/informal learning programs • internal/external training provision • performance appraisals • personal study • recognition of current competence/skills recognition • work experience/exchange/opportunities • workplace skills assessment
Organisational requirements may include:	• access and equity principles and practices • anti-discrimination and related policy • business and performance plans • confidentiality and security requirements • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals
Feedback on performance may include:	• formal/informal performance appraisals • obtaining feedback from clients • obtaining feedback from supervisors and colleagues • personal, reflective behaviour strategies • routine organisational methods for monitoring service delivery
Learning delivery methods may include:	• conference and seminar attendance • formal course participation • induction

RANGE STATEMENT	
	• involvement in professional networks • on-the-job coaching or mentoring • presentations/demonstrations • problem-solving • work experience
Equipment and resources may include:	• facilities • funding • guest speakers • technological tools and equipment • time • training equipment such as whiteboards and audio-visual equipment
Coaching and mentoring assistance may include:	• fair and ethical practice • non-discriminatory processes and activities • presenting and promoting a positive image of the collective group • problem-solving • providing encouragement • providing feedback to another team member • respecting the contribution of all participants and giving credit for achievements

Unit Sector(s)

Unit sector	

Competency field

Competency field	Workforce Development - Learning and Development

Co-requisite units

Co-requisite units		

BSBLED501A Develop a workplace learning environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to encourage and support the development of a learning environment in which work and learning come together. Particular emphasis is on the development of strategies to facilitate and promote learning, and to monitor and improve learning performance. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to managers. All managers have a prominent role in encouraging, supporting and facilitating the development of a learning environment in which work and learning come together. At this level work will normally be carried out within complex and diverse methods and procedures, which require the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Create learning opportunities	1.1. Identify potential formal and informal ***learning opportunities*** 1.2. Identify ***learning needs*** of individuals in relation to the needs of the team and/or enterprise, and available learning opportunities 1.3. Develop and implement ***learning plans*** as an integral part of individual and team performance plans 1.4. Develop strategies to ensure that learning plans reflect the ***diversity of needs*** 1.5. Ensure organisational procedures maximise individual and team access to, and participation in, learning opportunities 1.6. Ensure effective liaison occurs with ***training and development specialists*** and contributes to learning opportunities which enhance individual, team and organisational performance
2. Facilitate and promote learning	2.1. Develop strategies to ensure that workplace learning opportunities are used and that team members are encouraged to share their skills and knowledge to ***encourage a learning culture*** within the team 2.2. Implement organisational procedures to ensure workplace learning opportunities contribute to the development of appropriate workplace knowledge, skills and attitudes 2.3. Implement policies and procedures to encourage team members to assess their own competencies, and to identify their own learning and development needs 2.4. Share the benefits of learning with others in the team and organisation 2.5. Recognise workplace achievement by timely and appropriate recognition, feedback and rewards
3. Monitor and improve learning effectiveness	3.1. Use strategies to ensure that team and individual learning performance is monitored to determine the type and extent of any additional work-based support required, and any occupational health and safety (OHS) issues 3.2. Use feedback from individuals and teams to identify and introduce improvements in future learning arrangements 3.3. Make adjustments, negotiated with training and

ELEMENT	PERFORMANCE CRITERIA
	development specialists, for improvements to the efficiency and effectiveness of learning 3.4. Use processes to ensure that records and reports of competency are documented and maintained within the organisation's systems and procedures to inform future planning

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
  - deal with people openly and fairly
  - encourage colleagues to share their knowledge and skills
  - gain the trust and confidence of colleagues
  - use consultation skills effectively
- literacy skills to access and use workplace information
- planning and organisational skills to facilitate, promote and monitor learning by:
  - developing learning plans
  - establishing a workplace which is conducive to learning
  - evaluating the effectiveness of learning
  - identifying learning needs
  - negotiating learning arrangements with training and development specialists
  - selecting and using work activities to create learning opportunities
  - using coaching and mentoring to support learning.

Required knowledge

- management of relationships to achieve a learning environment
- principles and techniques involved in the management and organisation of:
  - adult learning
  - coaching and mentoring
  - consultation and communication
  - improvement strategies
  - leadership
  - learning environment and learning culture
  - monitoring and reviewing workplace learning
  - problem identification and resolution
  - record keeping and management methods
  - structured learning
  - work-based learning.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • methods for reviewing performance development needs and techniques for providing feedback on those needs • models for planning professional development • options available for professional development • knowledge of relationship management required to achieve a learning environment.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • analysis of responses to case studies and scenarios • assessment of written reports • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • oral or written questioning to assess knowledge of the principles and techniques involved in the management and organisation of adult learning • review of the development and implementation of learning plans • evaluation of how workplace achievement is recognised • review of processes used to record and report competency.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

EVIDENCE GUIDE	
	• other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Learning opportunities may include:	• structured learning activities conducted outside and within the workplace such as:
	  • accredited training through an independent organisation such as a state/territory OHS authority
	  • action learning
	  • short courses
	  • training through a Registered Training Organisation (RTO) leading to a nationally recognised Australian Qualifications Framework (AQF) qualification or Statement of Attainment
	  • workshops
	• workplace learning activities, that may also contribute to a recognised credential, such as:
	  • coaching
	  • exchange/rotation
	  • induction
	  • mentoring
	  • shadowing

Learning needs may include:	• developmental learning, for example the learning required to progress through an organisation and take on new tasks and roles • gaps between the competencies held by the employee, and the skills and knowledge required to effectively undertake workplace tasks
Learning plans may include:	• codes of conduct • key performance indicators • negotiated agreement with individual/s • OHS requirements • performance standards • team competencies

RANGE STATEMENT	
	• team roles and responsibilities • work outputs and processes
Diversity of needs may include:	• learning needs that relate to social, cultural and other types of workplace diversity, such as the need for varied communication styles and approaches
Training and development specialists may be:	• internal • external
Encourage a learning culture may refer to:	• encouraging learning and sharing skills and knowledge across the work team and the wider organisation to develop competencies of individual team members and the team as a whole

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBMGT402A Implement operational plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to implement the operational plan by monitoring and adjusting operational performance, producing short term plans for the department/section, planning and acquiring resources and providing reports on performance as required. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers are actively engaged in planning activities to achieve the measurable, stated objectives of the team and the organisation. This key role is carried out to provide safe, efficient and effective products and services to customer satisfaction within the organisation's productivity and profitability plans. At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning, evaluation, leadership and guidance of others.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement operational plan	1.1. Collate, analyse and organise details of ***resource requirements*** in consultation with ***relevant personnel***, ***colleagues and specialist resource managers*** 1.2. Implement ***operational plans*** to contribute to the achievement of organisation's performance/business plan 1.3. Identify and use ***key performance indicators*** (KPIs) to monitor operational performance 1.4. Undertake ***contingency planning*** and ***consultation processes*** 1.5. Provide assistance in the development and presentation of proposals for resource requirements in line with operational planning processes
2. Implement resource acquisition	2.1. Recruit and induct employees within ***organisation's policies***, ***practices and procedures*** 2.2. Implement plans for acquisition of physical resources and services within organisation's policies, practices and procedures and in consultation with relevant personnel
3. Monitor operational performance	3.1. Monitor ***performance systems and processes*** to assess progress in achieving profit/productivity plans and targets 3.2. Analyse and use budget and actual financial information to monitor profit/productivity performance 3.3. Identify unsatisfactory performance and take prompt action to rectify the situation according to organisational policies 3.4. Provide mentoring, coaching and supervision to support individuals and teams to use resources effectively, economically and safely 3.5. Present recommendations for variation to operational plans to the ***designated persons***/***groups*** and gain approval 3.6. Implement ***systems***, ***procedures and records*** associated with performance in accordance with organisation's requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- coaching and mentoring skills to provide support to colleagues
- literacy skills to access and use workplace information, and to prepare reports
- planning and organising skills to monitor performance and to sequence work of self and others to achieve planned outcomes.

Required knowledge

- principles and techniques associated with:
  - contingency planning
  - methods for monitoring and reporting on performance
  - monitoring and implementing operations and procedures
  - problem identification and methods of resolution
  - relevant budgeting and financial analysis, interpretation and reporting requirements
  - resource management systems at the tactical implementation level
  - resource planning and acquisition
  - tactical risk analysis including identification and reporting requirements.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • ability to monitor and adjust operational performance, produce short-term plans for the department or section, plan and acquire resources, and provide reports on performance as required • knowledge of principles and techniques associated with monitoring and implementing operations and procedures.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of documentation outlining contingency planning and consultation processes undertaken • demonstration of techniques in managing performance • evaluation of mentoring, coaching and supervision provided to support individuals and teams to use resources effectively, economically and safely.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Resource requirements may refer to:	• goods and services to be purchased and ordered • human, physical and financial resources - both current and projected • stock requirements and requisitions
Relevant personnel, colleagues and specialist resource managers may include:	• colleagues and specialist resource managers • managers • occupational health and safety committees and other people with specialist responsibilities • other employees • people from a wide range of social, cultural and ethnic backgrounds, and people with a range of physical and mental abilities • supervisors
Operational plans may refer to:	• organisational plans • tactical plans developed by the department or section to detail product and service performance
Key performance indicators may refer to:	• measures for monitoring or evaluating the efficiency or effectiveness of a system, and which may be used to demonstrate accountability and to identify areas for improvements
Contingency planning may refer to:	• contracting out or outsourcing human resources and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials and consumables • increasing sales or production • recycling and re-use • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour

RANGE STATEMENT	
	costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables • succession planning
Consultation processes may refer to:	• mechanisms used to provide feedback to the work team in relation to outcomes of consultation • meetings, interviews, brainstorming sessions, email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans
Organisation's policies, practices and procedures may include:	• organisational culture • Standard Operating Procedures • organisational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • undocumented practices in line with organisational operations

Performance systems and processes may refer to:	• informal systems used by frontline managers for the work team in the place of existing organisation-wide systems
	• formal processes within the organisation to measure performance, such as:
	  • feedback arrangements
	  • individual and teamwork plans
	  • KPIs
	  • specified work outcomes

Designated persons/groups may include:	• other affected work groups or teams and groups designated in workplace policies and procedures • those who have the authority to make decisions and/or recommendations about operations such as workplace supervisors, other managers
Systems, procedures and records	• databases and other recording mechanisms for ensuring records are kept in accordance with

RANGE STATEMENT	
may include:	organisational requirements • individual and team performance plans • organisational policies and procedures relative to performance

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBMGT403A Implement continuous improvement

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to implement the organisation's continuous improvement systems and processes. Particular emphasis is on using systems and strategies to actively encourage the team to participate in the process, monitoring and reviewing performance, and identifying opportunities for further improvements. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers have an active role in implementing the continuous improvement process to achieve the organisation's objectives. Their position, closely associated with the creation and delivery of products and services, means that they have an important role in influencing the ongoing development of the organisation. At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning and evaluation, and leadership and guidance of others.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement continuous improvement systems and processes	1.1. Implement ***systems*** to ensure that individuals and teams are actively encouraged and supported to ***participate in decision making processes***, assume responsibility and exercise initiative 1.2. Communicate the organisation's ***continuous improvement processes*** to individuals and teams, and obtain feedback 1.3. Ensure effective ***mentoring and coaching*** allows individuals and teams to implement the organisation's continuous improvement processes
2. Monitor and review performance	2.1. Use the organisation's systems and ***technology*** to monitor and review progress and to identify ways in which planning and operations could be improved 2.2. Improve ***customer service*** through continuous improvement techniques and processes 2.3. Formulate and communicate recommendations for adjustments to those who have a role in their development and implementation
3. Provide opportunities for further improvement	3.1. Implement ***processes to ensure that team members are informed of savings and productivity/service improvements*** in achieving the business plan 3.2. Document work performance to aid the identification of further opportunities for improvement 3.3. Manage records, reports and recommendations for improvement within the organisation's systems and processes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE This section describes the skills and knowledge required for this unit.
Required skills

• communication skills to:
  • coach and mentor team members
  • gain the commitment of individuals and teams to continuously improve
• innovation skills to design better ways of performing work.

Required knowledge

• principles and techniques associated with:
  • benchmarking
  • best practice
  • change management
  • continuous improvement systems and processes
  • quality systems.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • taking active steps to implement, monitor and adjust plans, processes and procedures to improve performance • supporting others to implement the continuous improvement system/processes, and to identify and report opportunities for further improvement • knowledge of principles and techniques associated with continuous improvement systems and processes.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • assessment of written reports • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of principles and techniques associated with change management • review of how the organisation's continuous improvement processeswascommunicated to individuals and teams • review of documentation of work performance.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Systems may refer to:	• forums, meetings • newsletters and reports • organisational policies and procedures • web-based communication devices
Participation in decision making processes may include:	• feedback in relation to outcomes of the consultative process • processes which ensures all employees have the opportunity to contribute to organisational issues
Continuous improvement processes may include:	• cyclical audits and reviews of workplace, team and individual performance • evaluations and monitoring of effectiveness • implementation of quality systems, such as International Standardization for Organization (ISO) • modifications and improvements to systems, processes, services and products • policies and procedures which allow the organisation to systematically review and improve the quality of its products, services and procedures • seeking and considering feedback from a range of stakeholders
Mentoring and coaching may refer to:	• providing assistance with problem-solving • providing feedback, support and encouragement • teaching another member of the team, usually focusing on a specific work task or skill
Technology may include:	• computerised systems and software such as databases, project management and word processing • telecommunications devices • any other technology used to carry out work roles and responsibilities

RANGE STATEMENT	
Customer service may be:	• internal or external • to existing, new or potential clients
Processes to ensure that team members are informed of savings and productivity/service improvements may refer to:	• email/intranet, newsletters or other communication devices • newsletters and bulletins • staff reward mechanisms • team meetings

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBMGT502B Manage people performance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manage the performance of staff who report to them directly. Development of key result areas and key performance indicators and standards, coupled with regular and timely coaching and feedback, provide the basis for performance management. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to all managers and team leaders who manage people. It covers work allocation and the methods to review performance, reward excellence and provide feedback where there is a need for improvement. The unit makes the link between performance management and performance development, and reinforces both functions as a key requirement for effective managers. This is a unit that all managers/prospective managers who have responsibility for other employees should strongly consider undertaking.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Allocate work	1.1. Consult relevant groups and individuals on work to be allocated and resources available 1.2. Develop work plans in accordance with operational plans 1.3. Allocate work in a way that is efficient, cost effective and outcome focussed 1.4. Confirm ***performance standards***, ***Code of Conduct*** and work outputs with relevant teams and individuals 1.5. Develop and agree ***performance indicators*** with relevant staff prior to commencement of work 1.6. Conduct ***risk analysis*** in accordance with the organisational risk management plan and legal requirements
2. Assess performance	2.1. Design ***performance management*** and review processes to ensure consistency with organisational objectives and policies 2.2. Train participants in the performance management and review process 2.3. Conduct performance management in accordance with organisational protocols and time lines 2.4. Monitor and evaluate performance on a continuous basis
3. Provide feedback	3.1. Provide informal feedback to staff on a regular basis 3.2. Advise relevant people where there is poor performance and take necessary actions 3.3. Provide on-the-job coaching when necessary to improve performance and to confirm ***excellence in performance*** 3.4. Document performance in accordance with the organisational performance management system 3.5. Conduct formal structured feedback sessions as necessary and in accordance with organisational policy
4. Manage follow up	4.1. Write and agree performance improvement and development plans in accordance with organisational policies 4.2. Seek assistance from human resources specialists where appropriate 4.3. Reinforce excellence in performance through recognition and continuous feedback

ELEMENT	PERFORMANCE CRITERIA
	4.4. Monitor and coach individuals with poor performance 4.5. Provide support services where necessary 4.6. Counsel individuals who continue to perform below expectations and implement the disciplinary process if necessary 4.7. ***Terminate*** staff in accordance with legal and organisational requirements where serious misconduct occurs or ongoing poor-performance continues

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
• communication skills to articulate expected standards of performance, to provide effective feedback and to coach staff who need development • risk management skills to analyse, identify and develop mitigation strategies for identified risks • planning and organisation skills to ensure a planned and objective approach to the performance management system.
Required knowledge
• relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination • relevant awards and certified agreements • performance measurement systems utilised within the organisation • unlawful dismissal rules and due process • staff development options and information.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • documented performance indicators and a critical description and analysis of performance management system from the workplace • techniques in providing feedback and coaching for improvement in performance • knowledge of relevant awards and certified agreements.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • analysis of responses to case studies and scenarios • assessment of written reports • demonstration of techniques in providing feedback and coaching • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of work plans, performance indicators, risk analysis,performance management and review processes, performance improvement and development plans.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other management units.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Performance standards mean:	• level of performance sought from an individual or group which may be expressed either quantitatively or qualitatively
Code of Conduct means:	• agreed (or decreed) set of rules relating to employee behaviour/conduct with other employees or an agreed (or decreed) set of rules relating to employee behaviour/conduct with other employees or customers
Performance indicators mean:	• measures against which performance outcomes are gauged
Risk analysis means:	• determination of the likelihood of a negative event preventing the organisation meeting its objectives and the likely consequences of such an event on organisational performance
Performance management means:	• in accordance with relevant industrial agreements • process or set of processes for establishing a shared understanding of what an individual or group is to achieve, and managing and developing individuals in a way which increases the probability it will be achieved in both the short- and long-term
Excellence in performance means:	• regularly and consistently exceeding the performance targets established while meeting the organisation's performance standards
Termination means:	• cessation of the contract of employment between an employer and an employee, at the initiative of the employer within relevant industrial agreements

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBMGT515A Manage operational plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop and monitor implementation of the operational plan to provide efficient and effective workplace practices within the organisation's productivity and profitability plans. Management at a strategic level requires systems and procedures to be developed and implemented to facilitate the organisation's operational plan. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to people who manage the work of others and operate within the parameters of a broader strategic and/or business plan. The task of the manager at this level is to develop and implement an operational plan to ensure that the objectives and strategies outlined in the strategic and/or business plan are met by work teams. However in some larger organisations operational plans may be developed by a strategic planning unit. At this level work will normally be carried out within complex and diverse methods and procedures, which require the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop operational plan	1.1. Research, analyse and document ***resource requirements*** and develop an operational plan in consultation with ***relevant personnel***, ***colleagues and specialist resource managers*** 1.2. Develop and/or implement ***consultation processes*** as an integral part of the operational planning process 1.3. Ensure details of the operational plan include the development of ***key performance indicators*** to measure organisational performance 1.4. Develop and implement ***contingency plans*** at appropriate stages of operational planning 1.5. Ensure the development and presentation of proposals for resource requirements is supported by a variety of information sources and seek specialist advice as required 1.6. Obtain approval for plan from relevant parties and ensure understanding among work teams involved
2. Plan and manage resource acquisition	2.1. Develop and implement strategies to ensure that employees are recruited and/or inducted within the organisation's human resources management policies and practices 2.2. Develop and implement strategies to ensure that physical resources and services are acquired in accordance with the ***organisation's policies***, ***practices and procedures***
3. Monitor and review operational performance	3.1. Develop, monitor and review performance systems and processes to assess progress in achieving profit and productivity plans and targets 3.2. Analyse and interpret budget and actual financial information to monitor and review profit and productivity performance 3.3. Identify areas of under performance, recommend solutions, and take prompt action to rectify the situation 3.4. Plan and implement systems to ensure that mentoring and coaching are provided to support individuals and teams to effectively, economically and safely use resources 3.5. Negotiate recommendations for variations to operational plans and gain approval from ***designated persons/groups***

ELEMENT	PERFORMANCE CRITERIA
	3.6. Develop and implement systems to ensure that procedures and records associated with documenting performance are managed in accordance with organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
• literacy skills to access and use workplace information and to write a succinct and practical plan • technology skills to use software to produce and monitor the plan against performance indicators • planning and organisational skills • coaching skills to work with people with poor performance • numeracy skills to allocate and manage financial resources.
Required knowledge
• models and methods for operational plans • budgeting processes • alternative approaches to improving resource usage and eliminating resource inefficiencies and waste.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • development of an operational plan with details of how it will be implemented and monitored • knowledge of models and methods for operational plans.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • oral or written questioning to assess knowledge of budgeting processes • review of operational plan, key performance indicators and contingency plans • evaluation of employee recruitment and induction strategies • evaluation of processes implemented to acquire physical resources and services.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Resource requirements may include:	• goods and services to be purchased and ordered • human, physical and financial resources - both current and projected • stock requirements and requisitions
Relevant personnel, colleagues and specialist resource managers may include:	• employees at the same level or more senior managers • managers • occupational health and safety committee/s and other people with specialist responsibilities • supervisors • union or employee representatives
Consultation processes may refer to:	• email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans • mechanisms used to provide feedback to the work team in relation to outcomes of consultation • meetings, interviews, brainstorming sessions
Operational plans may also be termed:	• action plans • annual plans • management plans • tactical plans
Key performance indicators may refer to:	• measures for monitoring or evaluating the efficiency or effectiveness of a system which may be used to demonstrate accountability and to identify areas for improvements
Contingency plans may include:	• contracting out or outsourcing human resources and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials

RANGE STATEMENT	
	and consumables • increasing sales or production • recycling and re-using • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables • succession planning
Organisation's policies, practices and procedures may include:	• organisational culture • organisational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • Standard Operating Procedures • undocumented practices in line with organisational operations
Designated persons/groups may include:	• groups designated in workplace policies and procedures • managers or supervisors whose roles and responsibilities include decision making on operations • other stakeholders such as Board members • other work groups or teams whose work will be affected by recommendations for variations

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBMGT516C Facilitate continuous improvement

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to lead and manage continuous improvement systems and processes. Particular emphasis is on the development of systems and the analysis of information to monitor and adjust performance strategies, and to manage opportunities for further improvements. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to managers who take an active role in managing a continuous improvement process in order to achieve an organisation's objectives. Where managers are closely associated with the creation and delivery of products and services, they play an important part in influencing the ongoing development of the organisation. At this level, work will normally be carried out using complex and diverse methods and procedures which require the exercise of considerable discretion and judgement, using a range of problem-solving and decision-making strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Lead continuous improvement systems and processes	1.1. Develop ***strategies*** to ensure that team members are actively encouraged and supported to participate in decision-making processes, assume responsibility and exercise initiative as appropriate 1.2. Establish ***systems*** to ensure that the organisation's ***continuous improvement processes*** are communicated to ***stakeholders*** 1.3. Ensure that change and improvement processes meet ***sustainability requirements*** 1.4. Develop effective mentoring and coaching processes to ensure that individuals and teams are able to implement and support the organisation's continuous improvement processes 1.5. Ensure that insights and experiences from business activities are captured and accessible through ***knowledge management systems***
2. Monitor and adjust performance strategies	2.1. Develop strategies to ensure that systems and processes are used to monitor ***operational progress*** and to identify ways in which planning and operations could be improved 2.2. Adjust and communicate strategies to stakeholders according to organisational procedures
3. Manage opportunities for further improvement	3.1. Establish processes to ensure that team members are informed of outcomes of continuous improvement efforts 3.2. Ensure processes include ***recording of work team performance*** to assist in identifying further opportunities for improvement 3.3. Consider areas identified for further improvement when undertaking future planning

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
• communication skills tocommunicate opportunities for improvement • learning skills to coach and mentor staff, using a range of methods to cater for different learning styles • innovation and lateral thinking skills to design better ways for achieving work outcomes • planning skills to establish and monitor systems and process for continuous improvement • teamwork and leadership skills to gain the confidence and trust of others
Required knowledge
• continuous improvement models • knowledge management systems • quality systems • sustainability principles

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • development and use of a range of strategies and approaches that improve work outcomes or organisational functioning, using continuous improvement models • monitoring performance and customer service.
Context of and specific resources for assessment	Assessment must ensure access to appropriate documentation and resources normally used in the workplace.
Method of assessment	The following assessment methods are appropriate for this unit: • analysis of responses to case studies and scenarios • assessment of reports • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate • observationof presentations • oral or written questioning to assess knowledge of quality systems • review of strategies developed to ensure that team members are actively encouraged and supported to participate in decision-making processes, assume responsibility and exercise initiative • evaluation of how customer-service strategies were communicated to stakeholders • review of documentation outlining work team performance.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Strategies may refer to:	• clarification of roles and expectations • communication devices and processes, such as intranet and email communication systems, to facilitate input into workplace decisions • long-term or short-term plans that factor in opportunities for team input • mentoring and 'buddy' systems to support team members to participate in decision making • performance plans • reward and recognition programs for high performing staff • training and development activities.
Systems may refer to:	• forums and meetings • newsletters and reports • policies and procedures • electronic communication devices.
Continuous improvement processes may include:	• cyclical audits and reviews of workplace, team and individual performance • evaluations and monitoring of effectiveness • modifications and improvements to systems, processes, services and products • policies and procedures that allow an organisation to systematically review and improve the quality of its products, services and procedures • seeking and considering feedback from a range of stakeholders.
Stakeholders may include:	• business or government contacts • funding bodies • individuals within the work team • internal and external contacts • organisation's clients and customers • professional associations • senior management and board members

RANGE STATEMENT	
	• unions and employee groups.
Sustainability requirements may include:	• addressing environmental and resource sustainability initiatives, such as environmental management systems, action plans, green office programs, surveys and audits • applying the waste management hierarchy in the workplace • complying with regulations and corporate social responsibility considerations for sustainability to enhance the organisation's standing in business and community environments • determining organisation's most appropriate waste treatment, including waste to landfill, recycling, re-use, recoverable resources and wastewater treatment • implementing ecological footprinting • implementing environmental management systems, e.g. ISO 14001:1996 Environmental management systems life cycle analyses • implementing government initiatives, e.g. Australian government's Greenhouse Challenge Plus • improving resource and energy efficiency • initiating and maintaining appropriate organisational procedures for operational energy consumption • introducing a green office program (a cultural change program) • introducing green purchasing • introducing national and international reporting initiatives, e.g. Global Reporting Initiative • introducing product stewardship • reducing emissions of greenhouse gases • reducing use of non-renewable resources • referencing standards, guidelines and approaches, such as sustainability covenants and compacts or triple bottom line reporting • supporting sustainable supply chain.
Knowledge management systems may include:	• best practice transfer • communities of practice • cross-project learning • expert directories • knowledge brokers' knowledge mapping • knowledge repositories • measuring and reporting intellectual capital • mentoring

RANGE STATEMENT	
	• performance management • post-project reviews • proximity and architecture • social software • storytelling.
Operational progress may refer to:	• customer service indicators • OHS indicators • productivity gains • success in meeting agreed goals and performance indicators.
Recording of work team performance may include:	• annotated performance plans • quantitative data, such as production figures • recommendations for improvement • records and reports.

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and leadership - management

Co-requisite units

Co-requisite units		

BSBWHS301A Maintain workplace safety

Modification History

Release	Comments
Release 1	This Unit first released with *BSB07 Business Training Package version 7.0*. Replaces and is equivalent to BSBCMN311B Maintain workplace safety.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to implement and monitor the organisation's work health and safety (WHS) policies, procedures and programs as part of a small work team.

Application of the Unit

This unit applies to workers who have a key role in maintaining workplace safety in an organisation. In their role they closely monitor aspects of work associated with the safe delivery of products and services, and they have an important responsibility in influencing ongoing safety in the workplace.

At this level, work will normally be carried out within known routines, methods and procedures but may also involve a number of complex or non-routine activities that require some discretion and judgement.

NOTE: The terms Occupational Health and Safety (OHS) and Work Health and Safety (WHS) are equivalent and generally either can be used in the workplace. In jurisdictions where the National Model WHS Legislation has not been implemented RTOs are advised to contextualise the unit of competency by referring to the existing State/Territory OHS legislative requirements.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

1. Assist with incorporating WHS policies and procedures into work team processes	1.1 Use ***WHS legislation*** as the basis for meeting the health and safety requirements of a small work team 1.2 Assist in providing and clearly explaining information to the work team about the organisation's ***WHS policies, procedures, programs and legislative requirements***, including the legal duties, powers, rights, obligations and responsibilities of individuals and parties inside and outside the workplace 1.3 Assist in regularly providing and clearly explaining information to the work team about ***identifying hazards*** and the outcomes of ***risk assessment***
2. Support participative arrangements for managing WHS	2.1 Implement and monitor ***organisational consultative procedures*** to facilitate participation of the work team in managing work area hazards 2.2 Promptly deal with issues raised through consultation according to organisational procedures for issue resolution 2.3 Encourage and assist work team members to contribute to managing WHS 2.4 Engage with individuals and work teams to identify and implement improvements in managing WHS feedback
3. Support the organisation's procedures for providing WHS training	3.1 Provide advice on ***WHS training needs*** of individuals and the work team 3.2 Provide advice on strategies and opportunities for developing work team's WHS competence 3.3 Provide ***coaching and mentoring assistance*** to work team members to support the effective development of individual and team WHS competence
4. Participate in identifying hazards, and assessing and controlling risks for the work area	4.1 Provide advice on ***hazards in the work area*** according to organisational policies and procedures, and WHS legal requirements 4.2 Support the implementation of ***procedures to control risks*** using the hierarchy of control and according to organisational procedures and WHS legal requirements 4.3 Identify and report inadequacies in existing risk control measures according to organisational procedures, the hierarchy of control and WHS legal requirements 4.4 Accurately complete and maintain WHS incident records in the work area according to organisational procedures and WHS legislative requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
  - assess resources required to apply risk controls
  - assist with environmental monitoring
  - identify hazards and assess risks appropriate to own work area and job role
  - monitor incidents and hazards
  - evaluate effectiveness of risk controls
- coaching and mentoring skills to provide support to colleagues
- communication skills to communicate with people from a range of backgrounds and with a range of abilities
- literacy skills to understand workplace procedures and work instructions for identifying and reporting hazards, and for interpreting WHS signs and symbols.

Required knowledge

- characteristics and composition of the work team
- hazards and associated risks in the workplace
- organisational policies and procedures relating to WHS, including hazard management, fire, emergencies, evacuation, incident investigation and reporting
- relevant Acts, regulations and codes of practice from all levels of government that impact on business operations, especially with regard to WHS and environmental issues, equal opportunity, industrial relations and anti-discrimination
- WHS aspects of other organisational systems and procedures.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • implementing organisational management systems and WHS procedures in own work area • understanding of and meeting WHS legal and organisational requirements as they apply to own work area and job role • knowledge of procedures for identifying hazards in the work area • knowledge of procedures for assessing and controlling risks to health and safety associated with those hazards according to organisational WHS procedures.

Context of and specific resources for assessment	Assessment must ensure access to:
	• safety processes relevant to the area of work
	• relevant information and documentation on compliance requirements, such as:
	  • organisational policies and procedures, standard operating procedures and plans
	  • relevant Acts, regulations, codes of practice, licensing requirements and standards
	• relevant internal and external information
	• appropriate office equipment and resources used in the identification and rectification of WHS compliance breaches.

Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third-party reports of on-the-job performance by the candidate • review of documents on WHS Acts, regulations, codes of practice, standards, policies and

	procedures developed and communicated to workers • analysis of responses to case studies and scenarios • demonstration of applying WHS legislation • oral or written questioning to assess knowledge of research and data-collection methods to obtain evidence of compliance with WHS legislation • assessment of duty of care arrangements.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

WHS legislation may include:	• WHS Acts, regulations and codes of practice
	• components of Acts and regulations, such as:
	  • dangerous goods
	  • environmental protection
	  • equal opportunity and anti-discrimination
	  • industrial relations
	  • privacy
	  • workers' compensation.

WHS policies, procedures, programs and legislative requirements may include:	• consultative arrangements for workers in the work area • emergency plan and procedures • first aid provision, and medical practitioner contact and attention • hazard reporting procedures • incident investigation • plant and equipment maintenance and use • procedures for hazard identification • procedures for risk assessment, and the selection and implementation of risk control measures • purchasing policy and procedures • safe operating procedures and instructions • site access and egress • transport and storage of dangerous goods • use and care of personal protective equipment • use and storage of hazardous substances • WHS arrangements for on-site contractors, visitors and members of the public • WHS audits and safety inspections.
Individuals and parties may include:	• contractors and subcontractors • customers • persons conducting businesses or undertakings (PCBUs) or their officers • workers • other persons at a workplace

	• WHS entry permit holders • WHS inspectors • WHS regulators.

Methods for ***identifying hazards*** and ***risk assessment*** include:	• as specified in WHS Acts, regulations and codes of practice
	• checking equipment before and during work
	• consulting work team members
	• housekeeping
	• reviewing records, for example:
	  • equipment maintenance
	  • hazardous chemicals, including labels and safety data sheet (SDS) register, and dangerous goods storage list
	  • injury
	  • training plan
	• workplace inspections in area of responsibility.

Organisational consultative procedures may include:	• attendance of health and safety representatives at management meetings • counselling and disciplinary processes • early response to worker suggestions, requests, reports and concerns put forward to management • formal and informal meetings • health and safety committees • other committees, for example planning and purchasing.
WHS training needs may include:	• coaching, mentoring and/or supervision • formal and informal learning programs • internal and external training programs • personal study.
Coaching and mentoring assistance may include:	• explaining and clarifying • presenting and promoting a safe workplace • problem solving • providing encouragement • providing feedback to another team member • respecting the contribution of all participants and giving credit for achievements.

Hazards in the work area may include:	• anything that has the potential to cause harm
	• as specified in WHS Acts, regulations and codes of practice
	• blocked exits
	• ergonomically unsuitable workstations and task design, for example:
	  • repetitive work
	  • poor lighting or glary surfaces
	  • non-adjustable work surfaces and seating
	• internal or external threat of occupational violence or bullying
	• lack of adequate storage
	• reliance on low order control measure (such as personal protective equipment) to reduce worker risk exposure, instead of controlling the hazard itself
	• slippery and uneven floors
	• unguarded and poorly maintained machinery and equipment
	• unlabelled chemicals and substances
	• untidy or noisy work areas.

Procedures to control risks may include actions, such as:	• as specified in WHS Acts, regulations and codes of practice
	• application of the hierarchy of control, namely:
	  • eliminate the risk
	  • reduce or minimise the risk through:
	• engineering controls
	• administrative controls
	• personal protective equipment
	• regular consultation with workers.

Unit Sector(s)

Regulation, Licensing and Risk – Work Health and Safety

BSBWHS501A Ensure a safe workplace

Modification History

Release	Comments
Release 1	This Unit first released with *BSB07 Business Training Package version 7.0*. Replaces and is equivalent to BSBOHS509A Ensure a safe workplace.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to establish, maintain and evaluate the organisation's work health and safety (WHS) policies, procedures and programs in the relevant work area according to WHS legislative requirements.

Application of the Unit

This unit applies to managers working in a range of contexts. It takes a systems approach and addresses compliance with relevant legislative requirements.

Those who have or are likely to have responsibility for WHS as part of their broader management role should undertake this unit.

The unit is relevant for people with obligations under WHS legislation, for example persons conducting a business or undertaking (PCBUs) or their officers (as defined by relevant legislation).

NOTE: The terms Occupational Health and Safety (OHS) and Work Health and Safety (WHS) are equivalent and generally either can be used in the workplace. In jurisdictions where the National Model WHS Legislation has not been implemented RTOs are advised to contextualise the unit of competency by referring to the existing State/Territory OHS legislative requirements.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	**Performance Criteria**
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

1. Establish and maintain a WHS management system	1.1 Locate, adapt, adopt and communicate WHS policies that clearly define the organisation's commitment to complying with ***WHS legislation***
	1.2 Identify ***duty holders*** and define WHS responsibilities for all workplace personnel according to WHS legislation, policies, procedures and programs
	1.3 Identify and approve financial and human resources required by the WHS management system (WHSMS)
2. Establish and maintain effective and compliant participation arrangements for managing WHS	2.1 Work with workers and their representatives to set up and maintain participation arrangements according to relevant WHS legislation
	2.2 Appropriately resolve issues raised through participation and consultation arrangements according to relevant WHS legislation
	2.3 Promptly provide information about the outcomes of participation and consultation to workers and ensure it is easy for them to access and understand
3. Establish and maintain procedures for effectively identifying hazards, and assessing and controlling risks	3.1 Develop procedures for ongoing hazard identification, and assessment and ***control of associated risks***
	3.2 Include hazard identification at the planning, design and evaluation stages of any change in the workplace to ensure that new hazards are not created by the proposed changes and existing hazards are controlled
	3.3 Develop and maintain procedures for selecting and implementing risk controls according to the hierarchy of control and WHS legislative requirements
	3.4 Identify inadequacies in existing risk controls according to the hierarchy of control and WHS legislative requirements, and promptly provide resources to enable implementation of new measures
	3.5 Identify requirements for expert WHS advice, and request this advice as required
4. Evaluate and maintain a WHS management system	4.1 Develop and provide a WHS induction and training program for all workers as part of the organisation's training program
	4.2 Use a system for ***WHS recordkeeping*** to allow identification of patterns of occupational injury and disease in the organisation, and to maintain a record of WHS decisions made, including reasons for the decision
	4.3 Measure and evaluate the WHSMS in line with the organisation's quality systems framework

	4.4 Develop and implement improvements to the WHSMS to achieve organisational WHS objectives 4.5 Ensure compliance with the WHS legislative framework so that, as a minimum, WHS legal requirements are achieved

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical and problem solving skills to examine relevant workplace information and data to identify hazards, and to assess and control risks
- communication skills to consult with staff and to promote a safe workplace
- information technology skills to store and retrieve relevant workplace information and data
- literacy skills to adapt and communicate WHS policies that reflect WHS legislative requirements
- problem-solving skills to deal with complex and non-routine difficulties.

Required knowledge

- hazard identification and risk-management processes
- hierarchy of risk control
- in-house and WHS legislative reporting requirements
- relevant WHS Acts, regulations and codes of practice that apply to the business operation.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • detailed knowledge and application of all relevant WHS Acts, regulations and codes of practice • establishing and maintaining arrangements for managing WHS within the organisation's business systems and practices • identifying requirements for expert WHS advice.
Context of and specific resources for assessment	Assessment must ensure access to: • appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • analysis of responses to case studies and scenarios • assessment of written reports • demonstration of techniques • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate • review of WHS policies, information provided on the WHSMS, and information about the outcomes of participation and consultation provided to workers • oral or written questioning to assess knowledge of WHS and WHS legislation • evaluation of WHS induction and training • review of WHS recordkeeping system.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

WHS legislation may include:	• applicable commonwealth and state or territory WHS Acts, regulations and codes of practice
	• common law duties to meet general duty of care requirements
	• WHS legislative and regulatory requirements for:
	  • effectively managing hazards
	  • establishing consultation arrangements, including those for health and safety representatives and health and safety committees
	  • providing information and training, including training in safe operating procedures; procedures for workplace hazards; hazard identification, risk assessment and risk control; and emergency and evacuation procedures
	• WHS legislative, regulatory and other requirements for the maintenance and confidentiality of records of occupational injury and disease.

Duty holders may include:	• as specified in WHS Acts:
	  • officers
	  • PCBUs or their officers
	  • workers
	  • other persons at a workplace.

Control of associated risks may include:	• administrative • as specified in WHS Acts, regulations and codes of practice • counselling/disciplinary processes, such as those associated with alcohol and other drugs • education about alcohol and other drugs work-related issues • engineering • hazard elimination • housekeeping and storage • issue resolution • personal protective equipment

	• purchasing of supplies and equipment • workplace inspections, including plant and equipment.

WHS recordkeeping may relate to:	• audit and inspection reports
	• consultation, such as:
	  • meetings of health and safety committees
	  • work team meeting agendas, including WHS items and actions
	• first aid/medical post records
	• hazardous chemicals registers
	• induction, instruction and training
	• manufacturer and supplier information, including dangerous goods storage lists
	• plant and equipment maintenance and testing reports
	• workers' compensation and rehabilitation records
	• workplace environmental monitoring records.

Unit Sector(s)

Regulation, Licensing and Risk – Work Health and Safety

BSBWOR301B Organise personal work priorities and development

Modification History

Release	Comments
Release 1	This version first released with *BSB07 Business Training Package version 6.0* Revised unit. Performance criteria and required skills updated to focus on learning and development practices, KPIs and compliance with policy and procedures. Replaces BSBWOR301A Organise personal work priorities and development

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to organise own work schedules, to monitor and obtain feedback on work performance, and to maintain required levels of competence. Operators may exercise discretion and judgement using appropriate theoretical knowledge of work scheduling and performance improvement to provide technical advice and support to a team.

Application of the Unit

This unit applies to individuals who are skilled operators and apply a broad range of competencies in various work contexts.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

1. Organise and complete own work schedule	1.1 Ensure that ***work goals, objectives*** or ***KPIs*** are understood, negotiated and agreed in accordance with ***organisational requirements*** 1.2 Assess and prioritise workload to ensure tasks are completed within identified timeframes 1.3 Identify ***factors affecting the achievement of work objectives*** and incorporate contingencies into work plans 1.4 Use ***business technology*** efficiently and effectively to manage and monitor scheduling and completion of tasks
2. Monitor own work performance	2.1 Accurately monitor and adjust personal work performance through self-assessment to ensure achievement of tasks and compliance with legislation and work processes or KPIs 2.2 Ensure that ***feedback on performance*** is actively sought and evaluated from colleagues and clients in the context of individual and group requirements 2.3 Routinely identify and report on variations in the quality of and ***products and services*** according to organisational requirements 2.4 Identify ***signs of stress*** and effects on ***personal wellbeing*** 2.5 Identify ***sources of stress*** and access appropriate ***supports and resolution strategies***
3. Coordinate personal skill development and learning	3.1 Identify personal learning and professional development needs and skill gaps using self-assessment and advice from colleagues and clients in relation to role and organisational requirements 3.2 Identify, prioritise and plan opportunities for undertaking personal skill development activities in liaison with work groups and relevant personnel 3.3 Access, complete and record ***professional development opportunities*** to facilitate continuous learning and career development 3.4 Incorporate formal and informal feedback into review of further learning needs

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to give and receive constructive feedback relating to development needs
- literacy skills to read and understand the organisation's procedures
- planning skills to organise work priorities according to work goals and objectives
- problem-solving skills to solve routine problems
- self-management skills to:
  - comply with policies and procedures
  - consistently evaluate and monitor own performance
  - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
  - anti-discrimination legislation
  - ethical principles
  - codes of practice
  - privacy laws
  - occupational health and safety (OHS)
- organisational policies, plans and procedures
- methods to elicit, analyse and interpret feedback
- principles and techniques of goal setting, measuring performance, time management and personal assessment
- competency standards and how to interpret them in relation to self
- methods to identify and prioritise personal learning needs.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • preparing work plans • scheduling and prioritising work objectives and tasks • knowledge of the principles and techniques of goal setting, measuring performance, time management and personal assessment.
Context of and specific resources for assessment	Assessment must ensure: • access to an actual workplace or simulated environment • access to office equipment and resources • examples of work schedules and performance improvement plans.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of self-assessment documentation outlining learning and development needs • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of methods to identify and prioritise personal learning needs • evaluation of planning for personal skill development activities and professional development opportunities.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Work goals and objectives may include:	• budgetary targets • production targets • reporting deadlines • sales targets • team and individual learning goals • team participation.
KPIs may include:	• key performance indicators on customer satisfaction • key performance indicators on customer effort • monitoring time taken to answer calls • operating within reporting protocols • score tools such as net promoter • understanding metrics.
Organisational requirements may include:	• access and equity principles and practice • business and performance plans • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals.
Factors affecting the achievement of work objectives may include:	• budget constraints • competing work demands • environmental factors such as time, weather • resource and materials availability • technology/equipment breakdowns • unforeseen incidents • workplace hazards, risks and controls.
Business technology may include:	• computer applications • computers • email • facsimile machines

	• internet/extranet/intranet • modems • personal schedulers • photocopiers • printers • scanners.
Feedback on performance may include:	• formal/informal performance appraisals • obtaining feedback from clients • obtaining feedback from supervisors and colleagues • personal, reflective behaviour strategies • routine organisational methods for monitoring service delivery.
Products and services may include:	• either products or services • goods • ideas • infrastructure • private or public sets of benefits.
Signs of stress may include:	• absence from work • alcohol or other substance abuse • conflict • poor work performance.
Personal wellbeing may include:	• cultural • emotional • social • spiritual.
Sources of stress may include:	• complex tasks • cultural issues • work and family conflict • workloads.
Supports and resolution strategies may include:	• awareness raising • counselling • employee assistance programs (EAP) • family support • group activities • job design • mediation • sharing load • time off • training.
Professional development opportunities may include:	• career planning/development • coaching, mentoring and/or supervision

	• formal/informal learning programs • internal/external training provision • performance appraisals • personal study • quality assurance assessments and recommendations • recognition of current competence/skills recognition • work experience/exchange/opportunities • workplace skills assessment.

Unit Sector(s)

Industry Capability – Workplace Effectiveness

Custom Content Section

Not applicable.

BSBWOR401A Establish effective workplace relationships

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to collect, analyse and communicate information and to use that information to develop and maintain effective working relationships and networks, with particular regard to communication and representation. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers play an important role in developing and maintaining positive relationships in internal and external environments so that customers, suppliers and the organisation achieve planned outputs and outcomes. They play a prominent part in motivating, mentoring, coaching and developing team cohesion through providing leadership for the team and forming the bridge between the management of the organisation and team members. At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning and evaluation, and leadership and guidance of others.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Collect, analyse and communicate information and ideas	1.1. Collect relevant ***information*** from appropriate sources and analyse and share with the work team to improve work performance 1.2. Communicate ideas and information in a manner which is appropriate and sensitive to the cultural and social diversity of the audience and any specific needs 1.3. Implement ***consultation processes*** to encourage employees to contribute to issues related to their work, and promptly relay feedback to the work team in regard to outcomes 1.4. Seek and value contributions from internal and external sources in developing and refining new ideas and approaches 1.5. Implement ***processes*** to ensure that issues raised are resolved promptly or referred to ***relevant personnel*** as required
2. Develop trust and confidence	2.1. Treat all internal and external contacts with integrity, respect and empathy 2.2. Use the ***organisation's social, ethical and business standards*** to develop and maintain effective relationships 2.3. Gain and maintain the trust and confidence of ***colleagues, customers and suppliers*** through competent performance 2.4. Adjust interpersonal styles and methods to meet organisation's social and cultural environment 2.5. Encourage other members of the work team to follow examples set, according to ***organisation's policies and procedures***
3. Develop and maintain networks and relationships	3.1. Use ***networks*** to identify and build relationships 3.2. Use networks and other work relationships to provide identifiable benefits for the team and organisation
4. Manage difficulties into positive outcomes	4.1. Identify and analyse difficulties, and take action to rectify the situation within the requirements of the organisation and relevant legislation 4.2. Guide and support colleagues to resolve work difficulties 4.3. Regularly review and improve ***workplace outcomes***

ELEMENT	PERFORMANCE CRITERIA
	in consultation with relevant personnel 4.4. Manage ***poor work performance*** within the organisation's processes 4.5. Manage conflict constructively within the organisation's processes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- coaching and mentoring skills to provide support to colleagues
- literacy skills to research, analyse, interpret and report information
- relationship management and communication skills to:
  - deal with people openly and fairly
  - forge effective relationships with internal and/or external people, and to develop and maintain these networks
  - gain the trust and confidence of colleagues
  - respond to unexpected demands from a range of people
  - use supportive and consultative processes effectively.

Required knowledge

- relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety (OHS), and environmental issues, equal opportunity, industrial relations and anti-discrimination
- theory associated with managing work relationships to achieve planned outcomes:
  - developing trust and confidence
  - maintaining consistent behaviour in work relationships
  - understanding the cultural and social environment
  - identifying and assessing interpersonal styles
  - establishing, building and maintaining networks
  - identifying and resolving problems
  - resolving conflict
  - managing poor work performance
  - monitoring, analysing and introducing ways to improve work relationships.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • range of methods and techniques for communicating information and ideas to a range of stakeholders • range of methods and techniques for developing positive work relationships that build trust and confidence in the team • accessing and analysing information to achieve planned outcomes • techniques for resolving problems and conflicts and dealing with poor performance • knowledge of the theory associated with managing work relationships to achieve planned outcomes.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • demonstration of techniques in managing poor performance and communicating effectively • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • oral or written questioning to assess knowledge of relevant legislation • review of consultation processesimplemented to encourage employees to contribute to issues related to their work • review of documentation outlining reviewing ofworkplace outcomes.
Guidance information for	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,

EVIDENCE GUIDE	
assessment	for example: • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Information may include:	• data appropriate to work roles and organisational policies that is shared and retrieved in writing or verbally, electronically or manually such as:
	  • archived, filed and historical background data
	  • individual and team performance data
	  • marketing and customer related data
	  • planning and organisational documents including the outcomes of continuous improvement and quality assurance
	  • policies and procedures

Consultation processes may include:	• feedback to the work team and relevant personnel in relation to outcomes of the consultation process • opportunities for all employees to contribute to ideas and information about organisational issues
Processes to ensure that issues raised are resolved promptly or referred may include:	• conducting informal meetings • coordinating surveys or questionnaires • distributing newsletters or reports • exchanging informal dialogue with relevant personnel • participating in planned organisational activities
Relevant personnel may include:	• managers • OHS committee and other people with specialist responsibilities • other employees • supervisors • union representatives/groups
Organisation's social, ethical and business standards may refer to:	• implied standards such as honesty and respect relative to the organisational culture and generally accepted within the wider

RANGE STATEMENT	

	community
	• rewards and recognition for high performing staff
	• standards expressed in legislation and regulations such as anti-discrimination legislation
	• written standards such as those expressed in:
	  • code of workplace conduct/behaviour
	  • dress code
	  • policies
	  • statement of workplace values
	  • vision and mission statements

Colleagues, customers and suppliers may include:	• both internal and external contacts • employees at the same level and more senior managers • people from a wide variety of social, cultural and ethnic backgrounds • team members
Organisation's policies and procedures may refer to:	• Materials Safety Data Sheets • organisational tasks and activities undertaken to meet performance outcomes • sets of accepted actions approved by the organisation • Standard Operating Procedures
Networks may be:	• established structures or unstructured arrangements and may include business or professional associations • informal or formal and with individuals or groups • internal and/or external
Workplace outcomes may include:	• OHS processes and procedures • performance of the work team
Poor work performance may refer to:	• individual team members • organisation as a whole • self • whole work team

Unit Sector(s)

Unit sector	

Competency field

Competency field	Industry Capability - Workplace Effectiveness

Co-requisite units

Co-requisite units		

BSBWOR402A Promote team effectiveness

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to promote teamwork. It involves developing team plans to meet expected outcomes, leading the work team, and proactively working with the management of the organisation. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Frontline managers have an important leadership role in the development of efficient and effective work teams. They play a prominent part in team planning, supervising the performance of the team and developing team cohesion. They provide leadership for the team and bridge the gap between the management of the organisation and the team members. As such they must 'manage up' as well as manage their team/s.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan to achieve team outcomes	1.1. Identify, establish and document ***team purpose***, ***roles***, ***responsibilities***, ***goals***, ***plans and objectives*** in ***consultation*** with team members 1.2. Support team members in meeting expected outcomes
2. Develop team cohesion	2.1. Provide opportunities for input of team members into planning, decision making and operational aspects of work team 2.2. Encourage and support team members to take ***responsibility for own work*** and to assist each other in undertaking required roles and responsibilities 2.3. Provide ***feedback*** to team members to encourage, value and reward individual and team efforts and contributions 2.4. Recognise and address issues, concerns and problems identified by team members or refer to ***relevant persons*** as required
3. Participate in and facilitate work team	3.1. Actively encourage team members to participate in and take responsibility for team activities and communication processes 3.2. Give the team support to identify and resolve problems which impede its performance 3.3. Ensure own contribution to work team serves as a role model for others and enhances the organisation's image within the work team, the organisation and with clients/customers
4. Liaise with management	4.1. Maintain open ***communication*** with ***line manager/management*** at all times 4.2. Communicate information from line manager/management to the team 4.3. Communicate unresolved issues, concerns and problems raised by the team/team members to line manager/management and ensure follow-up action is taken 4.4. Communicate unresolved issues, concerns and problems related to the team/team members raised by line managers/management to the team and ensure follow-up to action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
  - boost team morale
  - deal with team conflict
  - deliver messages from management
  - facilitate discussion
  - mentor and coach
- leadership skills
- planning and organising skills.

Required knowledge

- organisational goals, objectives and plans
- organisational policy and procedures framework
- organisational structure, including organisational chart
- principles and techniques associated with:
  - delegation and work allocation
  - goal setting
  - group dynamics and processes
  - individual behaviour and difference
  - leadership
  - motivation
  - negotiation
  - planning.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • teamwork plan with details of how it was generated and how it will be monitored so that team goals can be met • techniques in communicating information, dealing with team conflict and resolving issues • knowledge of organisational goals, objectives and plans.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • analysis of responses to case studies and scenarios • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of demonstrated techniques in working with team dynamics • observation of performance in role plays • oral or written questioning to assess knowledge of principles and techniques associated with group dynamics and processes • evaluation of opportunities provided for input of team members into planning, decision making and operational aspects of work team • review of feedback provided to team members • review of teamwork plan.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other units from the Certificate IV in Frontline

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	Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Team purpose, ***roles***, ***responsibilities***, ***goals***, ***plans and objectives*** may include:	• action plans, business plans and operational plans linked to strategic plans • expected outcomes and outputs • goals for individuals and the work team • individual and team performance plans and key performance indicators • occupational health and safety (OHS) responsibilities
Consultation may include:	• attending meetings, interviews, brainstorming sessions • using email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual effectiveness • using mechanisms to provide feedback to the work team in relation to consultation outcomes
Responsibility for own work may involve:	• individual and joint actions • individuals and teams
Feedback may refer to:	• formal/informal gatherings between team members where there is communication on work related matters • informal communication of ideas and thoughts on specific tasks, outcomes, decisions, issues or behaviours
Relevant persons may include:	• colleagues • direct superior or other management representatives • OHS committees and other people with specialist responsibilities
Communication may include:	• face-to-face • formal/informal interaction

RANGE STATEMENT	
	• verbal, written or electronic communication
Line manager*/*management may refer to:	• direct superior or other management representatives

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBWOR404B Develop work priorities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to plan one's own work schedules, to monitor and to obtain feedback on work performance and development. It also addresses the requirement to take responsibility for one's own career planning and professional development. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to individuals who are required to design their own work schedules and work plans, and to establish priorities for their work. They will typically hold some responsibilities for the work of others and have some autonomy in relation to their own role.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and complete own work schedule	1.1. Prepare ***Workgroup*** plans which reflect consideration of resources, client needs and workgroup targets 1.2. Analyse and incorporate ***Work objectives*** and priorities into personal schedules and responsibilities 1.3. Identify ***Factors affecting the achievement of work objectives*** and establish contingencies and incorporate them into work plans 1.4. Efficiently and effectively use ***Business technology*** to manage and monitor planning completion and scheduling of tasks
2. Monitor own work performance	2.1. Identify and analysed personal performance through self-assessment and feedback from others on the achievement of work objectives 2.2. Seek and evaluate ***Feedback on performance*** from colleagues and clients in the context of individual and group requirements 2.3. Routinely identify and report on variations in the quality of service and performance in accordance with organisational requirements
3. Coordinate professional development	3.1. Assess personal knowledge and skills against organisational benchmarks to determine development needs and priorities 3.2. Research and identify sources and plan for opportunities for improvement in consultation with colleagues 3.3. Use ***Feedback*** to identify and develop ways to improve competence within available opportunities 3.4. Identify, access and complete ***professional development activities*** to assist career development 3.5. Store and maintain records and documents relating to achievements and assessments in accordance with organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- learning skills to recognise and develop new and necessary skills and knowledge
- literacy skills to understand the organisation's policies, procedures and communications, to write personal work plans and professional development plans, and to request and receive feedback about performance
- organising skills to prioritise, manage time and meet deadlines
- problem solving skills to develop contingency plans

Required knowledge

- knowledge of relevant business technology applications to schedule tasks and plan work
- knowledge of techniques to prepare personal plans and establish priorities
- methods to identify and prioritise personal learning needs
- understanding of a range of professional development options
- understanding of methods to elicit, analyse and interpret feedback
- understanding of methods to evaluate own performance

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • preparing and communicating own work plan • scheduling work objectives and tasks to support the achievement of goals • seeking and acting on feedback from clients and colleagues • reviewing own work performance against achievements through self-assessment • accessing learning opportunities to extend own personal work competencies • using business technology to monitor self development.
Context of and specific resources for assessment	Assessment must ensure: • the learner and trainer should have access to appropriate documentation and resources normally used in the workplace
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • review of work and professional development plans.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • Other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Workgroup plans may include:	• budgetary plans • production plans • reporting plans • sales plans • team and individual learning goals • team participation • work schedules
Work objectives may include:	• budgetary targets • production targets • reporting deadlines • sales targets • team and individual learning goals • team participation
Factors affecting the achievement of work objectives may include:	• budget constraints • competing work demands • environmental factors such as time, weather, etc • personnel • resource and materials availability • technology/equipment breakdowns • unforeseen incidents
Business technology may include:	• computer applications • computers • email and internet/intranet/extranet • facsimile machines • modems • personal schedules • photocopiers • printers • scanners
Feedback on performance may include:	• formal/informal performance appraisals • obtaining comments from clients • obtaining comments from supervisors and

RANGE STATEMENT	
	colleagues • personal, reflective behaviour strategies • routine organisational methods for monitoring service delivery
Professional development activities may include:	• career planning/development • coaching, mentoring and/or supervision • formal/informal learning programs • internal/external training provision • performance appraisals • personal study • Recognition of Prior Learning • work experience/exchange/opportunities • workplace skills assessment

Unit Sector(s)

Unit sector	

ELEMENT	**PERFORMANCE CRITERIA**

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBWOR501B Manage personal work priorities and professional development

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manage own performance and professional development. Particular emphasis is on setting and meeting priorities, analysing information and using a range of strategies to develop further competence. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to managers and focuses on the need for managers to be organised, focussed and skilled, in order to effectively manage the work of others. As such it is an important unit for most managers, particularly as managers serve as role models and have a significant influence on the work culture and patterns of behaviour.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish personal work goals	1.1. Serve as a positive role model in the workplace through personal work planning and organisation 1.2. Ensure personal work goals, plans and activities reflect the organisation's plans, and ***own responsibilities and accountabilities*** 1.3. Measure and maintain personal performance in varying work conditions, work contexts and contingencies
2. Set and meet own work priorities	2.1. Take initiative to prioritise and facilitate competing demands to achieve personal, team and organisational goals and objectives 2.2. Use ***technology*** efficiently and effectively to manage work priorities and commitments 2.3. Maintain appropriate work-life balance, and ensure stress is effectively managed and health is attended to
3. Develop and maintain professional competence	3.1. Assess personal knowledge and skills against ***competency standards*** to determine development needs, priorities and plans 3.2. Seek feedback from employees, ***clients and colleagues*** and use this feedback to identify and develop ways to improve competence 3.3. Identify, evaluate, select and use ***development opportunities*** suitable to personal learning style/s to develop competence 3.4. Undertake participation in networks to enhance personal knowledge, skills and work relationships 3.5. Identify and develop new skills to achieve and maintain a competitive edge

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to receive, analyse and report on feedback
- literacy skills to interpret written and verbal information about workplace requirements
- organisational skills to set and achieve priorities.

Required knowledge

- principles and techniques involved in the management and organisation of:
  - performance measurement
  - personal behaviour, self-awareness and personality traits identification
  - personal development plan
  - personal goal setting
  - time management
- management development opportunities and options for self
- organisation's policies, plans and procedures
- types of learning style/s and how they relate to the individual
- types of work methods and practices that can improve personal performance.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • systems and processes (electronic or paper-based) used to organise and prioritise tasks, which show how work is managed • personal development plan, with career objectives and an action plan
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • analysis of responses to case studies and scenarios • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to asses knowledge of work methods and practices that can improve personal performance • review of personal work goals, plans and activities • evaluation of work-life balance • review of documentation assessing personal knowledge and skills against competency standards.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Own responsibilities and accountabilities may include:	• expectations of workplace performance as expressed in a performance plan • outputs as expressed in position descriptions or duty statements • statement of conduct outlining an individual's responsibilities/actions/performance
Technology may include:	• computerised systems and software, databases, project management and word processing • electronic diary • personal digital assistant (PDA)
Competency standards may include:	• enterprise-specific units of competency consistent with work requirements • nationally endorsed units of competency consistent with work requirements
Clients and colleagues may be:	• colleagues at the same level and more senior managers • internal or external customers • people from a wide range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities • team members
Development opportunities may include:	• action learning • coaching • exchange/rotation • induction • mentoring • shadowing • structured training programs

Unit Sector(s)

Unit sector	

Competency field

Competency field	Management and Leadership - Management

Co-requisite units

Co-requisite units		

BSBWOR502B Ensure team effectiveness

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to facilitate all aspects of teamwork within the organisation. It involves taking a leadership role in the development of team plans, leading and facilitating teamwork and actively engaging with the management of the organisation. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to managers and addresses the need for managers to facilitate work teams and to build a positive culture within work teams. The unit takes a systematic and planned approach to developing teams. It includes the soft skills as well as more structured approaches to the management of teams. At this level, work will normally be carried out within complex and diverse methods and procedures which require the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish team performance plan	1.1. ***Consult*** team members to establish a common understanding of team purpose, roles, responsibilities and ***accountabilities*** in accordance with organisational goals, plans and objectives 1.2. Develop ***performance plans*** to establish expected ***outcomes***, ***outputs***, ***key performance indicators*** and goals for work team 1.3. ***Support*** team members in meeting expected performance outcomes
2. Develop and facilitate team cohesion	2.1. Develop ***strategies*** to ensure team members have input into planning, decision making and operational aspects of work team 2.2. Develop ***policies and procedures*** to ensure team members take responsibility for own work and assist others to undertake required roles and responsibilities 2.3. Provide feedback to team members to encourage, value and reward individual and team efforts and contributions 2.4. Develop ***processes*** to ensure that issues, concerns and problems identified by team members are recognised and addressed
3. Facilitate teamwork	3.1. Encourage team members and individuals to participate in and to take responsibility for team activities, including communication processes 3.2. Support the team in identifying and resolving work performance problems 3.3. Ensure own contribution to work team serves as a role model for others and enhances the organisation's image for all ***stakeholders***
4. Liaise with stakeholders	4.1. Establish and maintain open communication processes with all stakeholders 4.2. Communicate information from ***line manager/management*** to the team 4.3. Communicate unresolved issues, concerns and problems raised by team members and follow-up with line manager/management and other relevant stakeholders 4.4. Evaluate and take necessary corrective action regarding unresolved issues, concerns and problems raised by internal or external stakeholders

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
• communication skills to explain team goals, to address team conflict and to build an environment of trust • planning and organisational skills to keep team on track and focussed on work outcomes.
Required knowledge
• group behaviour • strategies for mentoring and coaching to informally guide and instruct team members • issue resolution • strategies for gaining consensus.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • range of techniques that can be used to build work teams, strengthen communications in the team and resolve issues • methods for engaging with stakeholders and obtaining advice from outside the work team, to ensure team is focussed and on track • knowledge of group behaviour.
Context of and specific resources for assessment	Assessment must ensure: • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • analysis of responses to case studies and scenarios • assessment of written reports • demonstration of team building techniques • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • review of performance plans developed for work team • review of policies and procedures developed to ensure team members take responsibility for own work.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Consultation may refer to:	• conducting meetings, interviews, brainstorming sessions, email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual performance plans • mechanisms used to provide feedback to the work team in relation to outcomes of consultation
Accountabilities may refer to:	• responsibilities as defined in position descriptions, codes of conduct/behaviour, duty statements or similar • statement of conduct outlining responsibilities/actions/performance
Performance plans may refer to:	• individual performance plans linked to team goals • team plans based on work assignments and responsibilities
Outcomes, ***outputs***, ***key performance indicators*** may refer to agreed:	• changes in work roles and responsibilities • improved individual and team, performance and participation • improvements to systems, operations • measures for monitoring and evaluating the efficiency or effectiveness of systems or services • quality standards and expectations • targets for productivity improvements such as reduced downtime, higher production levels, decreases in absenteeism • targets for training and development
Support may include:	• Coaching • Mentoring • Training and development opportunities • Clarification of roles and expectations

RANGE STATEMENT	
	• Long term or short term plans • Meetings
Strategies may refer to:	• clarification of roles and expectations • electronic communication devices and processes, such as intranet and email communication systems, to facilitate input • long-term or short-term plans factoring in opportunities for team input • mentoring and 'buddy' systems to support team members in providing input • newsletters and briefings • training and development activities
Policies and procedures may refer to:	• organisational guidelines and systems that govern operational functions • procedures that detail the activities that must be carried out for the completion of actions and tasks • Standard Operating Procedures
Processes may refer to:	• brainstorming options with the team for addressing concerns • creating a matrix of issues and concerns and distributing for comment • discussions with individuals regarding their concerns • distributing drafts for comment with a range of options for resolution of concerns • training and development sessions
Stakeholders may include:	• Board members • business or government contacts • funding bodies • union/employee groups and representatives • work team
Line manager/management may refer to:	• chief executive officer • direct superior • other management representatives

Unit Sector(s)

Unit sector	

Competency field

Competency field	Industry Capability - Workplace Effectiveness

Co-requisite units

Co-requisite units		

CPCCLDG3001A Licence to perform dogging

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to perform slinging techniques, including the selection and inspection of lifting gear and/or the directing of the crane operator in the movement of the load when the load is out of view of the crane/ operator for licensing purposes.

Application of the Unit

Application of the unit

This unit covers the scope of work to demonstrate competency in the application of slinging techniques, selection and inspection of lifting gear and/or the directing of the crane/ operator in the movement of the load.

This unit is based upon the National Standard for Licensing Persons Performing High Risk Work.

This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan job.	1.1. ***Site information*** is obtained and related to the task. 1.2. ***Hazard*** s and potential hazards associated with the slinging and directing of loads are identified. 1.3. ***Hazard control measures*** consistent with ***appropriate standards*** are identified to ensure the safety of personnel and equipment. 1.4. The weight, dimensions and centre of gravity of the load are identified and assessed. 1.5. Suitable lifting/slinging points on the load are identified. 1.6. Appropriate ***lifting equipment*** needs are assessed. 1.7. Appropriate ***communication methods*** are assessed with ***crane***/ operators and other ***appropriate personnel***. 1.8. Manufacturer's specifications/information is obtained for special loads where necessary.
2. Select and inspect equipment.	2.1. Lifting equipment appropriate to the task is selected. 2.2. Lifting equipment is inspected for serviceability. 2.3. Damaged or excessively worn lifting equipment is identified, labelled and rejected. 2.4. Appropriate communication methods for the crane/operator and appropriate personnel are selected. 2.5. Appropriate ***communication equipment*** is selected and its serviceability is checked. 2.6. Appropriate ***personal protective equipment*** (PPE) is selected and checked.
3. Prepare site and equipment.	3.1. Hazard prevention/control measures are applied consistent with appropriate standards to ensure the safety of personnel and equipment. 3.2. Appropriate slinging method is selected. 3.3. Lifting equipment is prepared and assembled where appropriate. 3.4. Load destination is prepared.
4. Perform task.	4.1. Lifting equipment is attached and secured to the lifting hook using appropriate techniques. 4.2. Lifting hook is positioned over the load centre of gravity. 4.3. Lifting equipment is attached and secured to the load

ELEMENT	PERFORMANCE CRITERIA
	in an appropriate manner. 4.4. Tag line is attached and secured where appropriate. 4.5. Test lift is conducted to ensure security of load. 4.6. Load is moved maintaining stability and control at all times. 4.7. Appropriate communication methods and ***communication signals*** are applied to safely coordinate the load movement both within sight and out-of-sight of crane operator. 4.8. The load is landed to ensure that it is stable and secure from movement. 4.9. Lifting equipment is removed or disconnected from load and prepared for next task or storage.
5. Shut down job and clean up.	5.1. Unserviceable lifting equipment inspected and rejected. 5.2. ***Defective equipment*** is isolated and tagged. 5.3. Lifting equipment is stored in accordance with procedures and appropriate standards. 5.4. Hazard prevention/control measures are removed where appropriate. 5.5. Excess materials from the work area are removed (where applicable). 5.6. Defects are reported and recorded according to procedures and appropriate action is taken.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication techniques in the workplace including whistles, hand signals and use of fixed channel two-way radios
- communication skills at a level sufficient to communicate with other site personnel
- calculate rated capacity of lifting equipment
- apply different methods for making temporary connections to loads using fibre and synthetic ropes

REQUIRED SKILLS AND KNOWLEDGE

- ability to interpret rated capacity and working load limit tags
- hazard identification and control
- slinging techniques
- selection and inspection of lifting equipment
- directing crane operators in the moving of loads in a safe manner, using a slewing crane
- inspection and care of a wide range of lifting equipment to appropriate Australian Standards and/or manufacturer's specifications.

Required knowledge

Required knowledge for this unit is:

- appropriate mathematical procedures for estimation and measurement of loads
- basic knowledge of types of cranes and their functions
- Commonwealth, state or territory OHS legislation, standards and codes of practice relevant to the full range of techniques for undertaking dogging activities
- load stability and safety factors in line with manufacturer's specifications
- types of lifting equipment and slinging techniques for use, and their limitations and performance in a wide range of conditions (including but not limited to slings, beams, accessories, clamps, work-boxes, bins and pallets)
- understanding of the hierarchy of control.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Successful assessment of this unit meets the competency requirement of the National Standard for licensing Persons Performing High Risk Work.

State/Territory OHS regulators have mandated the use of Assessment Instruments and Instructions for Assessment of this unit which have been endorsed by the national body responsible for OHS matters.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with Commonwealth, state or territory OHS legislation, standards relevant to safe dogging and crane operations.
- communicate and work safely with others in the work area.
- apply Hazard prevention and control measures consistent with appropriate standards.
- apply to move loads in conjunction with cranes including, the reading of tags, slinging, loading, directing and landing loads with a slewing mobile crane with a telescopic boom and a winch, in and out of sight of the crane/ operator, moving four loads of varying shapes, sizes and weights.
- use fibre and/or synthetic rope as tag lines, and connecting to loads using clove hitch, rolling hitch, bowline and single sheetbend.
- conduct pre and post operational checks of the lifting equipment.

Context of and specific resources for assessment

- Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the national OHS endorsed Assessment Instrument
- Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting

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	• Assessors must ensure that the assessment in the workplace is organised through a workplace supervisor to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace
	• Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints
	• Assessment is to comply with the requirements of any relevant Standards or operating procedures for dogging activities
	• Applicants must have access to:
	  • personal protective equipment (PPE) for the purpose of the performance assessment.
	  • four different loads as prescribed in the endorsed assessment instrument
	  • lifting and associated equipment
	  • suitable slewing crane
	  • communication equipment (eg. fixed channel, two-way radios) as applicable.

Method of assessment	Assessment must be conducted using the national OHS endorsed Assessment Instrument. This Instrument provides instruction on the application of the assessment. Assessment may be in conjunction with the assessment of other units of competency. The use of **'simulators'** in the assessment of this unit of competency is **not acceptable**. Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
Guidance information for assessment	Further information about endorsed Assessment Instruments may be obtained from state/territory OHS regulators.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Site informationmay include but not be limited to	• local conditions such as access and egress • work method statements.
Hazards may include but not limited to:	• ground stability (eg. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. power lines, service pipes, trees, buildings, etc) • insufficient lighting • traffic (e.g. pedestrians, vehicles, plant) • weather (e.g. wind, lightning, storms) • other specific hazards (e.g. trip hazards, heights, radio interference, etc).
Hazard prevention/control measures	The systematic process of eliminating or reducing the risk to personnel and property through the application of controls. It includes the application of the hierarchy of controls, including: 1. elimination. 2. substitution. 3. isolation. 4. engineered control measures. 5. safe work practices. 6. personal protective equipment.
Appropriate standard s may include:	• codes of practice • legislation • Australian Standards • manufacturer's specifications • industry standards.
Lifting Equipment may include but not limited to:	• fibre ropes • wire ropes • chain

RANGE STATEMENT

	• wire and synthetic slings • shackles • eyebolts • beam clamps • plate clamps • spreader beams • lifting beams • pallet forks and cages • concrete kibbles • personnel boxes.
Communication Methods may include but are not limited to:	• written instructions • signage, • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol.
Cranes may include but not limited to:	• tower cranes (including self erecting) • portal boom cranes • vehicle loading cranes • slewing mobile cranes • non-slewing cranes • derrick cranes.
Appropriate personnel may include but are not limited to:	• supervisors • colleagues • managers who are authorised to take responsibility for the workplace or operations.
Communication Equipment may include but not limited to:	• fixed channel two-way radios • whistles • bells.
Personal protective equipment (PPE) may include but not limited to:	• hard hat • safety boots • gloves • high visibility clothing • reflective vest • relevant breathing, hearing, sight, skin and sun protection.
Load destination may include but not limited to:	• ground • loading platforms • suspended floors • vehicles.

RANGE STATEMENT

Communication signals may include but not limited to:	• stop - hand • stop - whistle • hoist up - hand • hoist up - whistle • hoist down - hand • hoist down - whistle • luff boom down - hand • luff boom down - whistle • luff boom up - hand • luff boom up - whistle • telescope out - hand • telescope out - whistle • telescope in - hand • telescope in - whistle • slew left - hand • slew left - whistle • slew right - hand • slew right - whistle.
Defective Equipment may include but not limited to:	• excessive wear • damage • stretched • broken wires • cut/damaged fibres.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area

CPCCLRG3001A Licence to perform rigging basic level

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to perform basic rigging work associated with movement of plant and equipment, steel erections, hoists (including mast climbing hoists), placement of pre-cast concrete, safety nets and static lines, perimeter safety screens and shutters; and cantilever crane loading platforms for licensing purposes.

Application of the Unit

Application of the unit This unit requires the applicant to be able plan the work, select and inspect equipment, set up task, erect structures and plant and dismantle structures and plant.

This unit is based upon the National Standard for Licensing Persons Performing High Risk Work.

This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

This unit has a pre-requisite requirement. This requirement may be met by either the successful completion of the unit *CPCCLDG3001A Licence to perform dogging* or holding a valid licence for dogging.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units

CPCCLDG3001A	Licence to perform dogging

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan job.	1.1. Task to be undertaken is assessed. 1.2. Potential workplace ***hazards*** are identified. 1.3. ***Hazard control measures*** are identified consistent with ***appropriate standards*** to ensure the safety of personnel and equipment. 1.4. Site information is obtained. 1.5. All ***forces and loads*** associated with erecting and dismantling ***structures*** and ***associated plant*** are considered in consultation with ***appropriate personnel***. 1.6. ***Rigging equipment*** and ***associated equipment*** are identified in consultation with appropriate personnel according to ***procedures*** and site information. 1.7. *Safety equipment* is identified. 1.8. Appropriate ***communication methods*** are identified with appropriate personnel.
2. Select and inspect equipment.	2.1. Rigging equipment and associated equipment are selected and inspected according to procedures and the appropriate standard. 2.2. Safety equipment is selected and inspected according to procedures. 2.3. All defective rigging equipment, associated equipment and safety equipment is isolated, reported and recorded according to procedures. 2.4. ***Communication equipment*** is selected and inspected for serviceability (where applicable.
3. Set up task.	3.1. Appropriate ***hazard prevention/control measures*** are applied to the work area according to procedures. 3.2. ***Ground suitability*** is inspected and checked (where appropriate). 3.3. Site information is reviewed, interpreted and communicated to appropriate personnel and ***appropriate personnel***. 3.4. All forces and loads associated with erecting and dismantling structures and associated plant are determined in consultation with appropriate personnel. 3.5. Safety equipment is fitted and worn correctly (where appropriate). 3.6. Rigging equipment and associated plant are

ELEMENT	PERFORMANCE CRITERIA
	positioned for work application and stability according to procedures.
	3.7. Methods of applying ***temporary connections*** using fibre rope are applied according to procedures and the appropriate standard.
4. Erect structures and plant.	4.1. Structures and associated plant are erected according to procedures and site information.
	4.2. Stability of structures and associated plant is maintained during erection according to procedures.
	4.3. Work is conducted safely at heights including safe and effective use of safety equipment.
	4.4. Appropriate communication methods and communication equipment, are used to co-ordinate the tasks.
	4.5. Associated plant and rigging equipment is used according to procedures and the appropriate standard.
	4.6. Temporary guys, ties, propping and shoring, including ***flexible steel wire rope***, and tubing, are connected where required.
	4.7. Associated equipment is used in a safe and appropriate manner.
	4.8. The completed task is inspected according to the appropriate standard.
	4.9. Excess materials are removed from the work area (where applicable).
5. Dismantle structures and plant.	5.1. Structures and associated plant are dismantled according to procedures and the appropriate standard.
	5.2. Work is conducted safely at heights including safe and effective use of safety equipment.
	5.3. Stability of structures and associated plant is maintained during dismantling according to procedures.
	5.4. Rigging equipment, associated equipment, safety equipment and associated plant are inspected for damage and defects.
	5.5. All defective rigging equipment, associated equipment, associated plant and safety equipment are isolated reported and recorded according to procedures.
	5.6. Rigging equipment and associated equipment are

ELEMENT	PERFORMANCE CRITERIA
	stored. according to procedures and the appropriate standard.
	5.7. Hazard prevention/control measures are removed (where appropriate).

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- ability to calculate Safe Working Load (SWL) and Working Load Limit (WLL)
- ability to erect and dismantle, level, plumb and stabilise associated plant and structures
- ability to work safely at heights including the correct application of safety equipment.
- accurate interpretation of basic structural charts and structural plans (site information)
- applying methods for making temporary connections of ropes using fibre and synthetic types
- apply methods of splicing and whipping fibre and synthetic ropes
- correct application and use of all rigging and associated equipment
- risk assessment and hazard control strategies
- interpersonal and communication skills at a level sufficient to site/workplace requirements. This includes the relevant communication methods and equipment.
- verify problems and equipment faults and demonstrate appropriate response.

Required knowledge

Required knowledge for this unit is:

- appropriate mathematical procedures for estimation and measurement of loads
- ability to interpret manufacturer's specifications for all plant and equipment use in rigging operations
- knowledge of principles relating to all plant, equipment and structural stability
- knowledge of the types and functions of rigging, safety and associated equipment including an understanding of their limitations.
- organisational and workplace standards, requirements, policies and procedures for rigging

REQUIRED SKILLS AND KNOWLEDGE

- understanding of the hierarchy of hazard identification and control
- relevant Commonwealth, state or territory and local government OHS legislation, standards and codes of practice for undertaking rigging activities
- understanding of inspection and maintenance requirements of a wide range of appropriate plant and equipment in line with Australian Standards or manufacturer's specifications
- estimation of ground bearing pressures of the full range of soil types and associated ground conditions for setting up plant and equipment.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Successful assessment of this unit meets the competency requirement of the National Standard for licensing Persons Performing High Risk Work.

State/Territory OHS regulators have mandated the use of Assessment Instruments and Instructions for Assessment endorsed by the national body responsible for OHS matters for the assessment of this unit.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with OHS licensing legislation.
- effectively communicate and work safely with others in the work area.
- effectively conduct risk assessment and management procedures.
- effectively complete the following tasks:-
  - inspection of all plant and equipment, and
  - installation of a fall arrest system (Static line), and
  - use of a safety harness / fall arrest system, and
  - installation of crane loading platforms and
  - installation of a safety net, and
  - installation of a shutter and safety screen, and
  - demonstrated ability to work safely at heights, and
  - erection of structural steel, and
  - erection of precast panel, and
  - set up and operation of a winch for load movement, and
  - installation of a materials hoist, or
  - installation of a mast climber.
- effectively demonstrate the following knots,

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	bends and hitches:- • Sheet bend, • Becket hitch, • Running bowline, • Double bowline. • effectively demonstrate the following splices and whippings:- • Eye splice, • Back splice, • Short splice, • Sail makers whipping, • Common whipping, • West countryman's
Context of and specific resources for assessment	Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the National OHS endorsed Assessment Instrument. Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting. Assessors must ensure that the assessment in the workplace is organised to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace. Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints. Assessment is to comply with the requirements of any relevant Standards or operating procedures for basic rigging. Applicants must have access to: • personal protective equipment (PPE) for the purpose of the Performance Assessment. • appropriate safety equipment in safe condition • appropriate rigging equipment, associated equipment associated plant in safe condition as described in the endorsed assessment instrument • communication equipment (e.g. two-way

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	radios) where applicable • appropriate materials as required for safe erection of structures • appropriate materials for conducting fibre rope slicing, whipping, knots, bends and hitches.
Method of assessment	Assessment must be conducted using the national OHS endorsed Assessment Instruments. These Instruments provide advice on their application. The use of **'simulators'** in the assessment of this unit of competency is **not acceptable**. Assessment may be in conjunction with the assessment of other units of competency. Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
Guidance information for assessment	Further information about endorsed Assessment Instruments may be obtained from state/territory OHS regulators.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Hazards may include but are not limited to:	• ground stability (e.g. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. power lines, service pipes) (**NB**: minimum clearance distance from powerlines or electrical equipment as determined by relevant state authority or

RANGE STATEMENT

	electrical supply authority.) • traffic (e.g. pedestrians, vehicles, other plant) • insufficient lighting • environmental conditions (e.g. wind, lightning, storms) • other specific hazards (e.g. dangerous materials).
Hazard control measures:	Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls. It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk: • elimination • substitution • isolation • engineering control measures • using safe work practices • personal protective equipment.
Appropriate standards may include:	• codes of practice • legislation • Australian Standards • manufacturer's specifications • industry standards (where applicable).
Site Information may include, but not limited to:	• local conditions such as access and egress, • work method statements, • site specific job safety analyses and other site specific documentation as required. • task plans / Schedules and structural plans.
Forces and Loads may include, but not limited to:	• dead loads • live loads • static load • dynamic loads • wind loads.
Structures may include but are not limited to:	• structural steel • precast panels.
Associated plant may include but not limited to:	• static lines • safety nets • hoists

RANGE STATEMENT

	• mast climbers • loading platforms.
Appropriate personnel may include:	• engineers • supervisors • colleagues • managers who are authorised to take responsibility for the workplace or operations.

Rigging Equipment may include but is not limited to:	• scaffolds
	• elevated work platforms
	• personnel box
	• cantilevered crane loading platforms
	• mast climbers.
	• safety screens and shutters
	• cranes including but not limited to:
	  • non-slewing cranes
	  • mobile slewing cranes
	  • vehicle loading cranes
	  • tower cranes
	  • self-erecting tower cranes
	  • portal boom cranes
	  • derrick cranes
	  • bridge and gantry cranes.

Associated equipment may include but is not limited to:	• all types of power and manually operated lifting gear • fibre ropes • flexible steel wire rope (FSWR) • chains • wire and synthetic slings • shackles • terminations • wedge sockets • eye bolts • beam clamps • plate clamps • rope grips • turnbuckles • rigging screws • chain blocks • lever blocks • lever-action winches

RANGE STATEMENT

	• sheaves • spreader bars • lifting beams • jacks • levers • skates • wedges • rollers • girder trolley
Procedures may include but is not limited to:	• manufacturer's guidelines (instructions, specifications or checklists) • industry operating procedures, relevant codes of practice • workplace procedures (work instructions, operating procedures, checklists).
Safety Equipment may include but not limited to:	• safety harness • energy absorber • lanyard • inertia reel • static safety lines • safety nets.
Communication Methods may include but is not limited to:	• verbal and non-verbal language • written instructions • signage • hand signals • listening, • questioning to confirm understanding, and appropriate worksite protocol. **NB**: Mobile phones are not to be used for signalling purposes during the rigging process.
Communication equipment may include but is not limited to:	• fixed channel two-way radios
Hazard prevention/control measures may include but is not limited to:	• safety tags on electrical switches/isolators • powerlines are insulated • safety observer used inside exclusion zone • power disconnected • traffic barricades and control • pedestrian barricades • trench covers

RANGE STATEMENT

	• movement of obstructions • personal protective equipment • adequate illumination • safety shutters and screens.
Ground suitability may include but is not limited to:	• rough uneven ground • backfilled ground • soft soils • hard compacted soil • rock • bitumen • concrete • suspended concrete floors • building roofs • landings • ground bearing pressure.
Appropriate personnel may include but not limited to	• other riggers • doggers • crane operators.
Temporary connections may include but not limited to:	• knots • bends • hitches • spicing • whipping.
Flexible Steel Wire Rope (***FSWR***) includes:	• identification, uses and connections. May include termination for: • static lines, • guys, • purchase systems, • lashing, • cranes, • hoist and winch ropes.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area

CPCCLRG3002A Licence to perform rigging intermediate level

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit specifies the outcomes required to perform rigging work at the intermediate level, which includes all the outcomes for rigging work at the basic level, and also includes rigging of cranes, rigging of conveyors, rigging of dredges and excavators, rigging associated with tilt slabs, rigging associated with demolition work, and dual lifts for licensing purposes.

Application of the Unit

Application of the unit

This unit requires the applicant to be able plan the work, select and inspect equipment, set up task, erect structures and plant and dismantle structures and plant.

This unit is based upon the National Standard for Licensing Persons Performing High Risk Work.

This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

This unit has a pre-requisite requirement. This requirement may be met by either the successful completion of the unit *CPCCLRG3001A Licence to perform rigging basic level* or holding a valid licence for basic rigging.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units

CPCCLRG3001A	Licence to perform rigging basic level

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan job.	1.1. Task to be undertaken is assessed 1.2. Potential workplace ***hazards*** are identified 1.3. ***Hazard control measures*** are identified consistent with ***appropriate standards*** to ensure the safety of personnel and equipment 1.4. Site information is obtained 1.5. All ***forces and loads*** associated with erecting and dismantling ***structures*** and ***associated plant*** are considered in consultation with ***appropriate personnel***. 1.6. ***Rigging equipment*** and ***associated equipment*** are identified in consultation with appropriate personnel according to ***procedures*** and site information. 1.7. *Safety equipment* is identified. 1.8. Appropriate ***communication methods*** are identified with appropriate personnel.
2. Select and inspect equipment.	2.1. Rigging equipment and associated equipment are selected and inspected according to procedures and the appropriate standard. 2.2. Safety equipment is selected and inspected according to procedures. 2.3. All defective rigging equipment, associated equipment and safety equipment is isolated, reported and recorded according to procedures. 2.4. ***Communication equipment*** is selected and inspected for serviceability (where applicable)
3. Set up tasks.	3.1. Appropriate ***hazard prevention/control measures*** are applied to the work area according to procedures. 3.2. ***Ground suitability*** is inspected and checked (where appropriate). 3.3. Site information is reviewed, interpreted and communicated to appropriate personnel and ***appropriate personnel***. 3.4. All forces and loads associated with erecting and dismantling structures and associated plant are determined in consultation with appropriate personnel. 3.5. Safety equipment is fitted and worn correctly (where appropriate). 3.6. Rigging equipment and associated plant are

ELEMENT	PERFORMANCE CRITERIA
	positioned for work application and stability according to procedures.
4. Erect structures and plant.	4.1. Structures and associated plant is erected according to procedures and site information. 4.2. Stability of structures and associated plant is maintained during erection according to procedures. 4.3. Work is conducted safely at heights including safe and effective use of safety equipment. 4.4. Appropriate communication methods and communication equipment, are used to co-ordinate the tasks. 4.5. Temporary guys, ties, propping and shoring, including ***flexible steel wire rope***, and tubing, are connected where required. 4.6. Associated plant and rigging equipment is used according to procedures and the appropriate standard. 4.7. Associated equipment is used in a safe and appropriate manner. 4.8. The completed task is inspected according to the appropriate standard. 4.9. Excess materials are removed from the work area (where applicable)
5. Dismantle structures and plant.	5.1. Structures and associated plant are dismantled according to procedures and the appropriate standard. 5.2. Work is conducted safely at heights including safe and effective use of safety equipment. 5.3. Stability of structures and associated plant is maintained during dismantling according to procedures. 5.4. Rigging equipment, associated equipment, safety equipment and associated plant are inspected for damage and defects 5.5. All defective rigging equipment, associated equipment, associated plant and safety equipment are isolated reported and recorded according to procedures. 5.6. Rigging equipment and associated equipment are stored according to procedures and the appropriate standard. 5.7. Hazard prevention/control measures are removed

ELEMENT	PERFORMANCE CRITERIA
	(where appropriate)

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- ability to calculate Safe Working Load (SWL) and Working Load Limit (WLL)
- ability to erect and dismantle, level, plumb and stabilise associated plant and structures
- ability to work safely at heights including the correct application of safety equipment.
- accurate interpretation of structural charts and structural plans (site information)
- correct application and use of all rigging and associated equipment
- risk assessment and hazard control strategies
- interpersonal and communication skills at a level sufficient to site/workplace requirements. This includes the relevant communication methods and equipment.
- verify problems and equipment faults and demonstrate appropriate response.

Required knowledge

Required knowledge for this unit is:

- appropriate mathematical procedures for estimation and measurement of loads
- ability to interpret manufacturer's specifications for all plant and equipment use in rigging operations
- knowledge of principles relating to all plant, equipment and structural stability
- knowledge of the types and functions of rigging, safety and associated equipment including an understanding of their limitations
- organisational and workplace standards, requirements, policies and procedures for rigging
- understanding of the hierarchy of hazard identification and control
- relevant Commonwealth, state or territory and local government OHS legislation, standards and codes of practice for undertaking rigging activities
- understanding of inspection and maintenance requirements of a wide range of appropriate plant and equipment in line with Australian Standards or manufacturer's specifications
- estimation of ground bearing pressures of the full range of soil types and associated

REQUIRED SKILLS AND KNOWLEDGE

ground conditions for setting up plant and equipment.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Successful assessment of this unit meets the competency requirement of the National Standard for licensing Persons Performing High Risk Work.

State/Territory OHS regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OHS matters.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with OHS licensing legislation.
- effectively communicate and work safely with others in the work area.
- effectively conduct risk assessment and management procedures.
- effectively complete the following tasks:
  - adding and removing a tower crane section, or
  - adding and removing a crane lattice boom section, or
  - erecting a non guyed tower (e.g. light tower, and
  - perform a multiple crane lift, or
  - a multiple winch lift, or
  - a combination of a crane and winch lift, and
  - lifting and installing a series of tilt-up panels, or
  - lifting and installing a series of scenery panels (i.e. entertainment industry), and
  - demolish/remove a series of tilt-up panel structures, or
  - demolish/remove a series of scenery panel structures, and
  - demolishing a concrete encased structural steel column and beam.
- **NB**: All specifications for these performance

EVIDENCE GUIDE

	tasks are detailed in the endorsed assessment instrument. • effectively conduct pre and post operational checks of intermediate rigging equipment.
Context of and specific resources for assessment	Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument. Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting. Assessors must ensure that the assessment in the workplace is organised to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace. Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints. Assessment is to comply with relevant appropriate standard requirements. Applicants must have access to: • personal protective equipment (PPE) for the purpose of the Performance Assessment • appropriate safety equipment is safe condition • appropriate rigging equipment, associated equipment associated plant in safe condition as described in the endorsed assessment instrument • communication equipment (e.g. radios) where applicable • appropriate materials as required for safe erection of structures.
Method of assessment	Assessment must be conducted using the endorsed Assessment Instruments. These Instruments provide advice on their application. The use of **'simulators'** in the assessment of this unit of competency is **not acceptable**. Assessment may be in conjunction with the assessment of other units of competency.

EVIDENCE GUIDE

	Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
Guidance information for assessment	Further information about endorsed Assessment Instruments may be obtained from state/territory OHS regulators.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Hazards may include but not limited to:	• ground stability (e.g. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. power lines, service pipes) (**NB**: Minimum clearance distance from powerlines or electrical equipment as determined by relevant state authority or electrical supply authority) • traffic (e.g. pedestrians, vehicles, other plant) • insufficient lighting • environmental conditions (e.g. wind, lightning, storms) • other specific hazards (e.g. dangerous materials).
Hazard control measures:	Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls. It includes the application of the hierarchy of control, the six-step preference of control

RANGE STATEMENT

	measures to manage and control risk: • elimination • substitution • isolation • engineering control measures • using safe work practices • personal protective equipment.
Appropriate standards may include but are not limited to:	• codes of practice • legislation • Australian Standards • manufacturer's specifications • industry standards (where applicable).
Site Information may include but is not limited to:	• local conditions such as access and egress • work method statements • site-specific job safety analyses and other site specific documentation as required • task plans /schedules and structural plans.
Forces and Loads may include but are not limited to:	• dead loads • live loads • static load • dynamic loads • wind loads.
Structures may include but not limited to:	• concrete tilt-up panels • scenery panels (used in entertainment) • non guyed light towers.
Associated plant may include but is not limited to:	• all types of cranes • conveyors • dredges • excavators.
Appropriate personnel may include but not limited to:	• supervisors • engineers • colleagues • managers who are authorised to take responsibility for the workplace or operations.
Rigging Equipment may include but is not limited to:	• scaffolds • elevated work platforms • stages • personnel box • cantilevered crane loading platforms,

RANGE STATEMENT

	• mast climbers
	• safety screens and shutters
	• cranes including but not limited to:
	  • non-slewing cranes
	  • mobile slewing cranes
	  • vehicle loading cranes
	  • tower cranes
	  • self-erecting tower cranes
	  • portal boom cranes
	  • derrick cranes
	  • bridge and gantry cranes.

Associated equipment may include but is not limited to:	• all associated equipment at the basic rigging level, and • lifting clutches (swift lifts) • chain motors.
Procedures may include but are not limited to:	• manufacturer's guidelines (instructions, specifications or checklists) • industry operating procedures, relevant codes of practice • workplace procedures (work instructions, operating procedures, checklists).
Safety Equipment may include but not limited to:	• safety harness • energy absorber • lanyard • inertia reel • safety nets • static lines.
Communication Methods may include but not limited to:	• verbal and non-verbal language • written instructions • signage • hand signals • listening, • questioning to confirm understanding, and appropriate worksite protocol. **NB**: Mobile phones are not to be used for signalling purposes during the rigging process.
Communication equipment may include but is not limited to:	• fixed channel two-way radios
Hazard prevention/control	• safety tags on electrical switches/isolators

RANGE STATEMENT

measures may include but is not limited to:	• powerlines are insulated • safety observer used inside exclusion zone • power disconnected • traffic barricades and control • pedestrian barricades • trench covers • movement of obstructions • personal protective equipment • adequate illumination.
Ground suitability may include but is not limited to:	• rough uneven ground • backfilled ground • soft soils • hard compacted soil • rock • bitumen • concrete • suspended concrete floors • building roofs • landings • ground bearing pressure.
Appropriate personnel may include but not limited to:	• other riggers • doggers • crane operators.
Flexible Steel Wire Rope (***FSWR***) includes:	• identification, uses and connections. May include termination for: • static lines • guys • purchase systems • lashing • cranes • hoist and winch ropes.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area

CPCCOHS1001A Work safely in the construction industry

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to undertake Occupational Health and Safety (OHS) induction training within the construction industry.

It requires the ability to demonstrate personal awareness of OHS legislative requirements, and the basic principles of risk management and prevention of injury and illness in the construction industry.

Licensing requirements will apply to this unit of competency depending on the regulatory requirements of each jurisdiction.

Application of the Unit

Application of the unit

This unit of competency supports the attainment of the basic OHS knowledge required prior to undertaking designated work tasks within any of the sectors within the construction industry. The unit relates directly to the general induction training program specified by the *National Code of Practice for Induction for Construction Work* (ASCC 2007).

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units

Nil

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify OHS legislative requirements.	1.1. Applicable ***OHS legislative requirements*** relevant to own work, role and responsibilities are identified and explained. 1.2. Duty of care requirements are identified. 1.3. Own responsibilities to comply with ***safe work practices*** are identified and explained.
2. Identify construction hazards and control measures.	2.1. Basic principles of risk management are identified. 2.2. ***Common construction hazards*** are identified and discussed. 2.3. ***Measures for controlling*** hazards and risks are identified.
3. Identify OHS communication and reporting processes.	3.1. OHS communication processes, information and documentation are identified and discussed. 3.2. Role of ***designated OHS personnel*** is identified and explained. 3.3. ***Safety signs and symbols*** are identified and explained. 3.4. Procedures and ***relevant authorities*** for reporting hazards, ***incidents*** and injuries are identified.
4. Identify OHS incident response procedures.	4.1. ***General procedures*** for responding to incidents and ***emergencies*** are identified and explained. 4.2. Procedures for accessing first aid are identified. 4.3. Requirements for the selection and use of relevant ***personal protective equipment*** are identified and demonstrated. 4.4. ***Fire safety equipment*** is identified and discussed.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication skills to:
  - clarify OHS legislative requirements

REQUIRED SKILLS AND KNOWLEDGE

- verbally report construction hazards and risks
- ask effective questions
- relay information to others
- discuss OHS issues and information
- comprehension skills to:
  - explain the basic OHS legislative requirements which will be applicable to own work
  - explain the meaning of safety signs and symbols
  - identify common construction hazards
  - discuss the basic principles of risk management.

Required knowledge

Required knowledge for this unit is:

- applicable Commonwealth, State or Territory OHS legislation, regulations, standards, codes of practice and industry standards/guidance notes relevant to own work, role and responsibilities
- basic principles of risk management and assessment for construction work
- common construction hazards
- common construction safety signage and its meanings
- general construction emergency response and evacuation procedures
- general construction work activities that require licenses, tickets or certificates of competency
- general first aid response requirements
- general procedures for raising OHS issues
- general procedures for reporting OHS hazards, accidents, incidents, emergencies, injuries, near misses and dangerous occurrences
- general procedures for responding to hazards, incidents and injuries
- general workers' compensation and injury management requirements
- OHS hierarchy of controls
- OHS responsibilities and rights of duty holders, including:
  - persons in control of construction work/projects
  - employers and self-employed persons
  - supervisors
  - employees
  - designers
  - inspectors
  - manufacturers and suppliers
- own responsibilities to comply with safe work practices relating to:
  - housekeeping

REQUIRED SKILLS AND KNOWLEDGE

- identification of hazards
- preventing bullying or harassment
- smoking
- use of amenities
- use of drugs and alcohol
- role of OHS committees and representatives
- types of common personal protective equipment and fire safety equipment
- types of OHS information and documentation.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence must confirm personal awareness of the following:

- applicable OHS legislative and safety requirements for construction work including duty of care
- the range of common construction hazards and procedures for the assessment of risk and application of the hierarchy of control
- OHS communication processes, information and documentation including the role of OHS committees and representatives, the meaning of common safety signs and symbols, and procedures for reporting hazards, incidents and injuries
- general procedures for responding to incidents and emergencies including evacuation, first aid, fire safety equipment and PPE.

Context of and specific resources for assessment

- Resources must be available to support the program including participant materials and other information or equipment related to the skills and knowledge covered by the program.
- It is recommended that the assessment tool designed specifically to support this unit of competency will provide consistency in assessment outcomes.
- Where applicable, physical resources should include equipment modified for people with disabilities
- Access must be provided to appropriate assessment support when required.
- Assessment processes and techniques must be culturally appropriate, and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed
- In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge.

EVIDENCE GUIDE

	Questioning will be undertaken in such a manner as is appropriate to the oracy, language and literacy levels of the operator, any cultural issues that may affect responses to the questions, and reflecting the requirements of the competency and the work being performed.
Method of assessment	Assessment methods may include more than one of the following: • practical assessment • oral questioning • written test • work-based activities • simulated project based activity

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

OHS legislative requirements relate to:	• Australian standards • construction industry OHS standards and guidelines • duty of care • health and safety representatives, committees and supervisors • licences, tickets or certificates of competency • National Code of Practice for Induction Training for Construction Work • national safety standards • OHS and welfare Acts and regulations • safety codes of practice.
Duty of care requirements relate to:	• legal responsibility under duty of care to do everything reasonably practicable to protect others from harm

RANGE STATEMENT

	• own responsibilities to comply with safe work practices, including activities that require licences, tickets or certificates of competency • relevant state OHS requirements, including employers and self-employed persons, persons in control of the work site, construction supervisors, designers, manufacturers and suppliers, construction workers, subcontractors and inspectors.
Safe work practices include:	• access to site amenities, such as drinking water and toilets • general requirements for safe use of plant and equipment • general requirements for use of personal protective equipment and clothing • housekeeping to ensure a clean, tidy and safer work area • no drugs and alcohol at work • preventing bullying and harassment • smoking in designated areas • storage and removal of debris.
Risk relates to:	• likelihood of a hazard causing injury or harm.
Principles of risk management include:	• assessing the risks involved • consulting and reporting ensuring the involvement of relevant workers • controlling the hazard • identifying hazards • reviewing to identify change or improvement.
Hazard relates to:	• any thing (including an intrinsic property of a thing) or situation with the potential to cause injury or harm.
Common construction hazards include:	• confined spaces • electrical safety • excavations, including trenches • falling objects • hazardous substances and dangerous goods • HIV and other infectious diseases • hot and cold working environments • manual handling • noise • plant and equipment

RANGE STATEMENT

	• traffic and mobile plant • unplanned collapse • ultraviolet (UV) radiation • working at heights.
Measures for controlling risk to eliminate or minimise hazards in accordance with the hierarchy of control include:	• elimination • substitution • isolation • engineering control • administrative control • personal protective equipment.
OHS communication processes include:	• discussions with OHS representatives • OHS meetings • OHS notices, newsletters, bulletins and correspondence • OHS participative arrangements • processes for raising OHS issues • toolbox talks • workplace consultation relating to OHS issues and changes.
OHS information and documentation includes:	• accident and incident reports • Acts and regulations • Australian standards • codes of practice • construction documentation and plans • emergency information contact • evacuation plans • guidance notes • job safety analyses • labels • material safety data sheets (MSDS) • proformas for reporting hazards, incidents and injuries • reports of near misses and dangerous occurrences • risk assessments • safe work method statements • safety meeting minutes • site safety inspection reports.
Designated OHS personnel includes:	• first aid officers • OHS committee members

RANGE STATEMENT

	• OHS representatives • supervisors.
Safety signs and symbols include:	• emergency information signs (e.g. exits, equipment and first aid) • fire signs (e.g. location of fire alarms and firefighting equipment) • hazard signs (e.g. danger and warning) • regulatory signs (e.g. prohibition, mandatory and limitation or restriction) • safety tags and lockout (e.g. danger tags, out of service tags).
Relevant authorities include:	• emergency services (e.g. police, ambulance, fire brigade and emergency rescue) • OHS regulatory authority • supervisor.
Incidents include:	• accidents resulting in personal injury or damage to property • near misses or dangerous occurrences which do not cause injury but may pose an immediate and significant risk to persons or property, and need to be reported so that action can be taken to prevent recurrence, for example: • breathing apparatus malfunctioning to the extent that the user's health is in danger • collapse of the floor, wall or ceiling of a building being used as a workplace • collapse or failure of an excavation more than 1.5 metres deep (including any shoring) • collapse or partial collapse of a building or structure • collapse, overturning or failure of the load bearing of any scaffolding, lift, crane, hoist or mine-winding equipment • damage to or malfunction of any other major plant • electric shock. • electrical short circuit, malfunction or explosion • uncontrolled explosion, fire or escape of gas, hazardous substance or steam • any other unintended or uncontrolled incident or event arising from operations carried on at a

RANGE STATEMENT

	workplace.
General procedures for responding to incidents and emergencies include:	• basic emergency response (keep calm, raise alarm, obtain help) • evacuation • notification of designated OHS personnel and authorities • notification of emergency services (e.g. when and how) • referring to site emergency plans and documentation.
Emergencies include:	• chemical spill • fire • injury to personnel • structural collapse • toxic and/or flammable vapours emission • vehicle/mobile plant accident.
Personal protective equipment includes:	• aprons • arm guards • eye protection • gloves • hard hat • hearing protection • high visibility retro reflective vests • protective, well fitting clothing • respiratory protection • safety footwear • UV protective clothing and sunscreen.
Fire safety equipment includes:	• breathing apparatus • fire blankets • firefighting equipment.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area

CPCPCM4012A Estimate and cost work

Modification History

Changes to performance criteria, required skills and knowledge, range statement and critical aspects
Not equivalent to CPCPCM4002A

Unit Descriptor

This unit of competency specifies the outcomes required to estimate materials, labour and time requirements and to establish costs for provision of services or products.
The unit covers the gaining of information, the estimation of materials, labour and time, the calculation of costs and the associated documentation.

Application of the Unit

This unit of competency supports the development of estimating and costing skills relevant to minor plumbing jobs.

Licensing/Regulatory Information

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Gather information.	1.1	Details of customer requirements are obtained through discussion with customer or from information supplied.
		1.2	Plans and specifications are accessed and site is inspected.
		1.3	Details of products and services to be provided are sourced.
		1.4	Delivery point and methods of transportation are determined where necessary.
		1.5	Details are recorded according to workplace procedures.
2	Estimate materials, labour and time.	2.1	Work, including preparatory tasks, is planned and sequenced.
		2.2	Types and quantities of materials required for product work are ***estimated***.
		2.3	Labour requirements to perform work are estimated.
		2.4	Time requirements to perform work are estimated.
		2.5	***Sustainability principles and concepts*** are observed when preparing for and undertaking work process.

3	Calculate costs.	3.1	Total materials, labour and overhead costs are calculated according to workplace procedures using appropriate ***equipment***.
		3.2	Total work cost is calculated, including overheads and mark-up percentages.
		3.3	Final cost for work is calculated.
4	Document and verify details.	4.1	Details of costs and charges are documented according to workplace procedures.
		4.2	Costs, calculations and other details are verified according to workplace procedures.
		4.3	Customer quotation and tender are prepared.
		4.4	Details are documented for future reference according to workplace procedures and using relevant ***information***.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - identify customer requirements
  - use language and concepts appropriate to cultural differences
  - use and interpret non-verbal communication
- literacy skills to:
  - complete workplace documentation
  - prepare quotes and tenders
  - record details, including costs and charges
- numeracy skills to:
  - estimate materials and labour required for provision of services or products
  - determine costs for the provision of a quotation or tender in the plumbing and services industry
  - apply calculations

Required knowledge

- estimating and calculating processes
- impact of time on wages and other costs
- job safety analysis (JSA) and safe work method statements (SWMS)
- process for estimating and costing work
- processes for accessing information and for calculating material requirements
- relevant statutory requirements related to estimating and costing work
- SI system of measurements
- relevant Australian standards applicable to the work to be undertaken
- tendering and contracting processes
- workplace and equipment safety requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, standards and specifications to the estimation and costing of work
- applying safety requirements throughout the work sequence, including electrical safety requirements and the use of personal protective clothing and equipment
- estimating and costing three varied jobs in at least Class 1 buildings, including:
  - applying sustainability principles and concepts
  - estimating quantities of material required
  - determining types and amount of labour required to complete the work
  - estimating time required to complete the work
  - estimating overheads associated with the job
  - providing a written quotation and tender for each of the work requirements
  - communicating and working effectively and safely with others.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the

assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Factors for ***estimating*** and costing must include:
- labour
- materials
- overheads.

Sustainability principles and concepts:
- cover the social, economic and environmental use of resources to meet current and future needs
- may include:
  - use of materials and resources to meet the current needs of society while preserving the environment for the future
  - efficient use and recycling of material
  - disposing of waste material to ensure minimal environmental impact
  - energy efficiency
  - water efficiency.

Equipment may include:
- calculators

- computers running appropriate software to estimate and calculate necessary details
- measuring equipment appropriate to work
- stationery.

Information may include:

- charts and hand drawings
- instructions issued by authorised organisational or external personnel
- job drawings
- manufacturer specifications and instructions
- material safety data sheets (MSDS)
- memos
- organisation work specifications and requirements
- regulatory and legislative requirements, particularly those pertaining to:
  - codes of practice
  - contracts
  - building codes
  - WHS and environmental requirements
  - plumbing regulations
- relevant Australian standards
- safe work procedures relating to estimating and costing work
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Unit Sector(s)

Functional area

Unit sector Plumbing and services

Custom Content Section

Not applicable.

HLTCPR211A Perform CPR

Modification History

HLT07 Version 4	HLT07 Version 5	Comments
HLTCPR201B Perform CPR	HLTCPR211A Perform CPR	Updated in V5 - Unit version identifier updated, changes to competency outcomes of first aid units

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to perform Cardiopulmonary Resuscitation (CPR) in line with the Australian Resuscitation Council (ARC) Guidelines

Application of the Unit

Application

The skills and knowledge described here relate specifically to performing Cardiopulmonary Resuscitation (CPR) and do ***NOT*** address other aspects of resuscitation, life support or first aid

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Respond to signs of an unconscious casualty	1.1 Identify *hazards* to health and safety of self and others
	1.2 Minimise immediate risk to health and safety of self, casualty and others by isolating any hazard(s)
	1.3 Approach the casualty in a calm, culturally aware, sensitive and respectful manner
	1.4 Assess vital signs of casualty
	1.5 Recognise the need for CPR
2. Perform CPR	2.1 Perform CPR in line with ARC Guidelines
	2.2 Seek assistance from others and/or ambulance support as appropriate
3. Communicate details of the incident	3.1 Request ambulance support or appropriate medical assistance and/or ambulance support using available means of communication
	3.2 Accurately convey details of casualty's condition and CPR procedures performed to emergency services/relieving personnel
	3.3 Calmly provide information to reassure casualty, adopting a communication style to match the casualty's level of consciousness
	3.4 Provide reports, where applicable, in a timely manner, presenting all relevant facts relating to performing CPR according to established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- ARC guidelines
- Awareness of stress management techniques and available support
- Basic anatomy and physiology relating to performing CPR
- Chain of survival
- Duty of care requirements
- How to access ambulance/medical assistance and/or emergency response support
- Infection control principles and procedures, including use of standard precautions
- Need to be culturally aware, sensitive and respectful
- Own skills and limitations
- Privacy and confidentiality requirements
- Procedures for performing CPR
- Relevant workplace hazards
- State and territory regulatory requirements, ARC Guidelines and accepted industry practice relating to currency of skill and knowledge
- Understanding of the use of an Automated External Defibrillator (AED), including when to use and when not to

Essential skills:

It is critical that the candidate demonstrate the ability to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Assess breathing and responsiveness of casualty
- Call an ambulance
- Call for medical assistance
- Demonstrate correct procedures for performing CPR using a resuscitation manikin, including:
  - standard precautions
  - checking for response and normal breathing
  - appropriate location, rate and depth of compression
  - recommended ratio of compressions to ventilations in ARC Guidelines
  - appropriate duration and cessation of CPR
  - may include use of an AED
- Identify and minimise hazards to health and safety of self and others in the immediate workplace or community environment
- Report details of incident and CPR as provided
- Use infection control procedures, including standard precautions

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects of assessment:

- The individual being assessed must provide evidence of specified essential knowledge as well as skills
- Competence must be demonstrated working individually
- Currency of CPR knowledge and skills is to be demonstrated in line with State/Territory, ARC and industry guidelines

Context and resources required for assessment:

- For assessment purposes, demonstration of skills in CPR procedures requires using a model of the human body (resuscitation manikin) in line with Australian Resuscitation Council Guidelines

Access and equity considerations:

- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
- All workers should develop their ability to work in a culturally diverse environment
- In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
- Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

Range Statement

RANGE STATEMENT

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Condition of the casualty may include:	• Signs of collapse
	• Absence of signs of life:
	  • unconscious
	  • unresponsive
	  • not moving
	  • not breathing normally

Demonstrated CPR *procedure must*:	• Include adult / child and infant casualties
	• Conform to ARC guidelines, including:
	  • recognition that 'any resuscitation is better than none'
	  • demonstrate:
	• appropriate rate, location and depth of compression
	• correct ratio of compression to ventilation
	• checking for signs of life
	• appropriate duration and cessation of CPR
	• Demonstrated CPR procedure may also include use of an AED if available

Access to equipment / resources includes:	• Barrier device • Manikin • Resuscitation mask • AED (if available)
A hazard is:	• A source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these

Unit Sector(s)

Not Applicable

HLTFA302C Provide first aid in remote situation

Modification History

HLT07 Version 4	HLT07 Version 5	Comments
HLTFA302B Provide first aid in remote situation	HLTFA302C Provide first aid in remote situation	ISC upgrade changes to remove references to old OHS legislation and replace with references to new WHS legislation. Updated unit codes to First Aid references.

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to provide first aid to a casualty in a remote and/or isolated situation

Application of the Unit

Application

This unit is appropriate for those undertaking first aid work in remote or isolated workplace situations

Application of these skills and knowledge should be contextualised as required to address specific industry, enterprise or workplace requirements and to address specific risks and hazards and associated injuries

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to respond to emergency in a remote situation	1.1 *Prepare for isolated travel* or work, accounting for expected contingencies 1.2 Assess casualty's condition and determine appropriate response in order to minimise hazards and determine need for medical assistance 1.3 Evaluate options for transporting casualty or waiting for medical assistance in relation to environmental issues, transport availability and casualty's condition

ELEMENT	PERFORMANCE CRITERIA
2. Provide first aid in a remote situation	2.1 Determine and explain the nature of casualty's injury/condition and relevant first aid procedures to provide comfort 2.2 Seek consent from casualty prior to applying first aid management 2.3 Provide first aid response to address casualty's condition and in accordance with effective first aid principles 2.4 Respond to the casualty in a culturally aware, sensitive and respectful manner 2.5 Monitor casualty's condition and undertake ongoing first aid procedures as required 2.6 Calmly provide information to reassure casualty during the wait for medical assistance, adopting a communication style to match the casualty's level of consciousness 2.7 Provide shelter from elements in accordance with environmental conditions 2.8 Document condition of casualty over time to assist in on-going management
3. Work in conjunction with medical and emergency services support	3.1 Establish communication links to medical services, using relevant communication equipment to ensure prompt control action is undertaken 3.2 Request ambulance support or appropriate medical assistance according to relevant circumstances 3.3 Administer medication under direct instruction from an *authorised health worker* as required 3.4 Assist in the evacuation of the casualty by following directions given by emergency services as required

ELEMENT	PERFORMANCE CRITERIA
4. Evaluate the incident	4.1 Evaluate management of the incident and where required develop an action plan in consultation with relevant parties 4.2 Participate in debriefing/evaluation in order to improve future operations and address individual's needs 4.3 Formulate and review contingency planning to identify and select improved or alternative management principles and procedures as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

- Awareness of stress management techniques and available support
- Infection control principles and procedures, including use of standard precautions
- Principles for evaluating management options relating to transporting casualty and/or waiting for assistance
- Principles of identifying and preparing area for safe evacuation (including aero-medical evacuation)
- Principles of preparing for providing first aid in an area remote from ready assistance, including identifying and preparing supplies to address contingencies specific to different types of situation
- Understanding of WHS principles
- Working knowledge of communication systems, equipment and methods as available in the remote situation

Essential skills:

It is critical that the candidate demonstrate the ability to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Accurately listen to, clarify and apply medical instructions
- Administer medication under direct instruction from an authorised health worker and in accordance with State/Territory regulations, legislation and policies
- Communicate effectively and assertively and show leadership in an incident
- Conduct an initial casualty assessment in a remote situation
- Demonstrate:
  - adequate infection control procedures, including standard precautions
  - identification and preparation of area for safe evacuation (including aero-medical evacuation)

REQUIRED SKILLS AND KNOWLEDGE

- safe manual handling
- Evaluate available options for transporting or maintaining condition of casualty
- Improvise treatment and associated resources
- Interpret and use listed documents
- Make prompt and appropriate decisions relating to managing an incident in a remote situation
- Plan an appropriate first aid response in line with established first aid principles, policies and procedures, ARC Guidelines and/or state/territory regulations, legislation and policies and industry requirements and respond appropriately to contingencies in line with own level of skills and knowledge
- Prepare a written incident report or provide information to enable preparation of an incident report
- Transport casualty safely using available methods
- Undertake contingency planning in relation to providing a first aid response in a remote situation
- Use available communication methods and equipment to access medical assistance
- Use available resources effectively to manage pain
- Use literacy and numeracy skills as required to read, interpret and apply guidelines and protocols

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects of assessment:

- The individual being assessed must provide evidence of specified essential knowledge as well as skills
- Competence should be demonstrated working individually and, where appropriate, as part of a first aid team
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace or community setting
- Currency of first aid knowledge and skills is to be demonstrated in line with State/Territory regulations, legislation and policies, Australian Resuscitation Council and industry guidelines
- Assessment should utilise aspects of actual or simulated remote situation relevant to work or community context

Method of assessment may include:

- Skills in performing first aid procedures are to be assessed through demonstration, with questioning to confirm essential knowledge
- Skills may be assessed through simulations, using anatomical models, manikins or in a high fidelity simulation centre

Access and equity considerations:

- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
- All workers should develop their ability to work in a culturally diverse environment
- In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
- Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

EVIDENCE GUIDE

Related unit:	This unit should be assessed either after or in conjunction with achievement of the following related competency unit: • HLTFA311A Apply first aid

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Contextualisation to address specific requirements may include:	• Focus on first aid management of specific types of injury • First aid provision under specific constraints or circumstances (e.g. in confined spaces, in maritime work environment or in work environment involving identified risks/hazards)
Preparation for isolated/remote travel may include:	• Selection of relevant communication equipment • Accessing relevant first aid supplies and resources to cater for environmental conditions • Considering access/egress opportunities • Notifying relevant authorities of travel plans
In remote/isolated situations consideration to travel or wait would depend upon:	• Severity of injury • Time required for medical assistance to arrive • Whether movement might hinder rescue • Advice given by authorised health worker • Whether contact with medical and/or emergency services has been achieved

RANGE STATEMENT

Documentation, especially in remote/isolated situations may include recording:	• Time
	• Location
	• Description of injury
	• First aid management
	• Fluid/oral intake/output, including fluid loss via:
	  • blood
	  • vomit
	  • faeces
	  • urine
	• Administration of medication including time, date, person administering, dose
	• Vital signs

Authorised health worker may include:	• Paramedic/ambulance officer • General practitioner • Nurse practitioner

Unit Sector(s)

Not Applicable

HLTFA311A Apply first aid

Modification History

HLT07 Version 4	HLT07 Version 5	Comments
HLTFA301C Apply first aid	HLTFA311A Apply first aid	Updated in V5 - changes to competency outcomes of first aid units

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to provide first aid response, life support, management of casualty(s), the incident and other first aiders, until the arrival of medical or other assistance

Application of the Unit

Application

These skills and knowledge may be applied in a range of situations, including community and workplace settings

Training Package users should ensure implementation is consistent with any specific workplace and/or relevant legislative requirements in relation to first aid, including State/Territory requirements for currency

Application of these skills and knowledge should be contextualised as required to address specific industry, enterprise or workplace requirements and to address specific risks and hazards and associated injuries

A current Senior First Aid, Workplace Level 2 or Level 2 qualification may provide evidence of skills and knowledge required by this competency unit. However, as with all evidence of competence, evidence must be assessed against the requirements specified in the unit of competency

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.	The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess the situation	1.1 Identify assess and minimise *hazards* in the situation that may pose a risk of injury or illness to self and others
	1.2 Minimise immediate *risk* to self and casualty's health and safety by controlling any hazard in accordance with work health and safety requirements
	1.3 Assess casualty and identify injuries, illnesses and conditions
2. Apply first aid procedures	2.1 Adopt a communication style to match the casualty's level of consciousness
	2.2 Use available *resources and equipment* to make the casualty as comfortable as possible
	2.3 Respond to the casualty in a culturally aware, sensitive and respectful manner
	2.4 Determine and explain relevant first aid procedures to provide comfort
	2.5 Seek consent from casualty prior to applying first aid management
	2.6 Provide *first aid management* in accordance with *established first aid principles and procedures*
	2.7 Seek first aid assistance from others in a timely manner and as appropriate
	2.8 Correctly operate first aid equipment for first aid management according to manufacturer/supplier's instructions and procedures
	2.9 Use safe manual handling techniques
	2.10 Monitor *casualty's condition* and respond in accordance with established first aid principles and procedures
	2.11 Finalise casualty management according to casualty's needs and first aid principles
3. Communicate details of the incident	3.1 Request ambulance support and/or appropriate medical assistance according to relevant circumstance
	3.2 Accurately convey observation of casualty's condition and management activities to ambulance services / relieving personnel

ELEMENT	PERFORMANCE CRITERIA
	3.3 Accurately assess and *report details* of casualty's physical condition, changes in conditions, management and response to management in line with established procedures
	3.4 Maintain confidentiality of records and information in line with privacy principles and statutory and/or organisation policies
4. Evaluate own performance	4.1 Seek feedback from *appropriate clinical expert*
	4.2 Recognise the possible psychological impacts on rescuers involved in critical incidents
	4.3 Participate in debriefing/evaluation to improve future response and address individual needs

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes a demonstrated understanding of:

- Awareness of stress management techniques and available support
- First aid management, based on a risk assessment relevant to the workplace or community setting of:
  - abdominal injuries
  - allergic reactions
  - altered and loss of consciousness
  - asthma
  - anaphylaxis
  - bleeding
  - burns – thermal, chemical, friction, electrical
  - cardiac arrest
  - chest pain
  - choking/airway obstruction
  - drowning

  - envenomation – snake, spider, insect and marine bites and stings
  - environmental impact such as hypothermia, hyperthermia, dehydration, heat stroke
  - injuries- cold and crush injuries; eye and ear injuries; head, neck and spinal injuries; minor skin injuries; needle stick injuries; soft tissue injuries including sprains, strains, dislocations, fractures
  - medical conditions, including cardiac conditions, epilepsy, diabetes, asthma and other respiratory conditions
  - poisoning and toxic substances (including chemical contamination)
  - respiratory distress
  - seizures
  - shock
  - stroke
  - substance misuse – common drugs and alcohol, including illicit drugs
  - unconsciousness, not breathing or not breathing normally
- Guidelines for provision of first aid as outlined in Australian Resuscitation Council (ARC) Guidelines and guidelines of Australian national peak clinical bodies and State / Territory legislation and regulations
- Social / legal issues including:
  - duty of care
  - confidentiality
  - importance of debriefing
  - need to be culturally aware, sensitive and respectful
  - own skills and limitations
- Understanding of:
  - basic work health and safety requirements in the provision of first aid
  - basic principles and concepts underlying the practice of first aid
  - chain of survival
  - infection control principles and procedures, including use of standard precautions
  - priorities of management in first aid when dealing with life threatening conditions
  - procedures for dealing with major and minor injury and illness
- Understanding of the use of an Automated External Defibrillator (AED), including when to use and when not to
- Understanding the causes of asphyxia due to body position

Essential skills:

It is critical that the candidate demonstrate the ability to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Apply first aid principles
- Call an ambulance and/or medical assistance according to relevant circumstances and report casualty(s) condition

- Communicate effectively and assertively in an incident
- Conduct an initial casualty assessment
- Management of:
  - Anaphylaxis using adrenalin auto-injector
  - Avoiding asphyxia due to body position
  - Bronchospasm using bronchodilator and spacer device
  - Cardiac arrest using single rescuer procedure, including the demonstration of a seamless changeover between operators
  - External haemorrhage
  - Fractures, sprains and strains using arm slings, roller bandages and other appropriate immobilisation techniques
  - Unconscious casualty including using a recovery position
- Demonstrate:
  - ability to call an ambulance
  - consideration of the welfare of the casualty
  - safe manual handling
  - site management to prevent further injury
  - understanding of causes contributing to asphyxia due to body position
- Demonstrate correct procedures for performing CPR using a manikin, including standard precautions (i.e. as per unit *HLTCPR211A Perform CPR*)
- Demonstrate infection control, including use of standard precautions
- Evaluate own response and identify appropriate improvements where required
- Follow State and Territory work health and safety legislative requirements
- Make prompt and appropriate decisions relating to managing an incident in the workplace
- Plan an appropriate first aid response in line with established first aid principles, ARC Guidelines and guidelines of Australian national peak clinical bodies, industry standards and State / Territory legislation and regulations and respond to contingencies in line with own skills
- Prepare a written incident report or provide information to enable preparation of an incident report
- Provide assistance with self-medication as per subject's own medication regime and/or administer medication in line with State/Territory legislation and regulations, organisation policies and any available medical/pharmaceutical instructions
- Unpack, activate and follow prompts of an AED

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package. The evidence guide supplements assessment requirements that apply to all units in this Training Package. Users of this evidence guide should first read the package's assessment guidelines.

Critical aspects of assessment:

- The individual being assessed must provide evidence of essential knowledge and essential skills
- Competence should be demonstrated working individually and as part of a first aid team
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace or community setting
- Currency of first aid knowledge and skills is to be demonstrated in line with ARC Guidelines and guidelines of Australian national peak clinical bodies and State / Territory legislation and regulations

Context and resources required for assessment:

- Skills in performing first aid procedures are to be assessed through demonstration, with questioning to confirm essential knowledge
- Demonstration of first aid procedures over the required range of situations relevant to the workplace setting must be demonstrated using standard precautions and first aid equipment including roller bandages, triangular bandages, other trauma dressings, bronchodilator and spacer device, adrenalin auto-injectors and AED
- For assessment purposes, demonstration of skills in CPR procedures requires using a model of the human body (resuscitation manikin) in line with ARC Guidelines

Access and equity considerations:

- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
- All workers should develop their ability to work in a culturally diverse environment
- In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
- Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package. The evidence guide supplements assessment requirements that apply to all units in this Training Package. Users of this evidence guide should first read the package's assessment guidelines.

Related units:

This unit incorporates the content of units:

- HLTCPR211A Perform CPR
- HLTFA211A Provide basic emergency life support

Range Statement

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Contextualisation to address specific requirements may include:

- First aid provision under specific constraints or circumstances (e.g. in confined spaces, in maritime work environment or in work environment involving identified risks/hazards)
- Focus on first aid management of specific types of injury

Established first aid principles and procedures include:

- Australian Resuscitation Council Guidelines
- Guidelines of Australian national peak clinical bodies
- Primary First Aid Principles to:
  - Preserve life
  - Prevent illness, injury and condition(s) becoming worse
  - Promote recovery
  - Protect the unconscious casualty
- State/Territory legislation and regulations

Hazards may include:

- A source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these
- Relevant hazards may be classified under the headings:
  - Biological hazards
  - Chemical hazards
  - Hazards associated with manual handling Physical hazards

Risks may include:

- Environmental risks
- Exposure to blood and other body substances
- Risks associated with the proximity of other workers and bystanders
- Risks from body position
- Risks from equipment, machinery and substances
- Risks from vehicles
- Risks from first aid equipment
- Risk of further injury to the casualty

Casualty's condition is managed for:

- Abdominal injuries
- Airway obstruction
- Allergic reactions
- Altered and loss of consciousness
- Bleeding
- Body position
- Burns – thermal, chemical, friction, electrical
- Cardiac arrest
- Chest pain
- Choking/airway obstruction
- Drowning
- Envenomation – snake, spider, insect and marine bites and stings
- Environmental impact such as hypothermia, hyperthermia, dehydration, heat stroke
- Injuries: cold and crush injuries; eye and ear injuries; head, neck and spinal injuries; minor skin injuries; needle stick injuries; soft tissue injuries including sprains, strains, dislocations, fractures
- Medical conditions, including cardiac conditions, epilepsy, diabetes, asthma and other respiratory conditions
- Poisoning and toxic substances (including chemical contamination)
- Respiratory distress
- Seizures
- Shock
- Stroke
- Substance misuse – common drugs and alcohol, including illicit drugs
- Unconsciousness, not breathing or not breathing normally

First aid management must take into account:

- Infection control
- Legal and social responsibilities of first aider

- The setting in which first aid is provided, including:
  - industry/site specific regulations, codes etc.
  - location and nature of the incident
  - location of emergency services personnel situational risks associated with, for example, electrical and biological hazards, weather, motor vehicle accidents
  - State and Territory work health and safety legislative requirements
  - workplace policies and procedures
  - WHS requirements
- The use and availability of first aid equipment and resources

Resources and equipment are used appropriate to the risk to be met and may include:

- AED
- Auto-injector
- Bronchodilator and spacer device
- First aid kit
- Puffer/inhaler
- Resuscitation mask or barrier

Appropriate clinical expert may include:

- Ambulance officer/paramedic
- Appropriately qualified health care professional

Report details should include:

- Time
- Description of injury/illness
- First aid management
- Incident details
- Location
- Vital signs

Report details may include:

- Administration of medication including:
  - date
  - dose
  - person administering
  - time
- Fluid intake/output, including fluid loss via:
  - blood
  - faeces
  - urine
  - vomit
  - Injury report forms
- Workplace documents as per organisation requirements

Unit Sector(s)

Not Applicable

RIIHAN309A Conduct telescopic materials handler operations

Modification History

Not applicable.

Unit Descriptor

This unit covers conducting telescopic materials handler operations in the resources and infrastructure industries. It includes planning and preparing; conducting machine pre-operational checks; operating the telescopic materials handler; attaching, securing, lifting, carrying and placing materials; selecting, removing and fitting attachments; relocating the telescopic materials handler; carrying out machine operator maintenance; and cleaning up. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Civil construction
- Coal mining
- Drilling
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply ***compliance documentation*** and ***safety requirements*** relevant to the work activity 1.2. Work instructions, including plans, and operational details are obtained, confirmed and applied to the allotted task 1.3. Signage requirements are identified and obtained from the project traffic management plan and implemented 1.4. Plant, ***tools and equipment*** selected to carry out tasks are consistent with the requirements of the job, and are checked for serviceability and any faults are rectified or reported 1.5. ***Environmental protection requirements*** are identified from the project environmental management plan, and are confirmed and applied
2. Conduct machine pre-operational checks	2.1. Pre-start, start-up, park-up and shutdown procedures are carried out 2.2. Telescopic materials handler controls , brakes, attachments and other implements are checked for manoeuvrability, serviceability and faults are rectified or reported
3. Operate telescopic materials handler	3.1. Site ***hazards*** associated with ***telescopic materials handler*** operations are identified and safe operating techniques are used to minimise risk 3.2. Operating techniques for telescopic materials handler are identified and applied to achieve optimum output while achieving specified tolerances 3.3. Telescopic materials handler is operated to work instructions in accordance with company operating procedures
4. Attach, secure, lift, carry and place materials	4.1. ***Communication*** practices associated with transportation and lifting of materials are conducted and continued between parties 4.2. Weight of load is established 4.3. Slings and lifting gear are selected,

	attached and used in accordance with ***safe working load requirements*** 4.4. Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications 4.5. Load is shifted safely and effectively 4.6. Load is moved in accordance with conventional hand and audible signals
5. Select, remove and fit attachments	5.1. Attachment is selected for the task 5.2. Attachment is moved and fitted 5.3. Attachment is tested to ensure correct fitting and operation 5.4. Attachment is used in accordance with manufacturer's recommendations and design limits 5.5. Removed attachments are cleaned and stored in designated locations
6. Relocate the telescopic materials handler	6.1. Telescopic materials handler is moved safely between worksites, observing relevant codes and traffic management requirements 6.2. Telescopic materials handler is prepared for relocation in accordance with the manufacturer's specifications
7. Carry out machine operator maintenance	7.1. Telescopic materials handler is ***safely parked***, prepared for maintenance and shut down 7.2. Inspection and fault finding are conducted 7.3. Defective parts are removed and replaced safely and effectively 7.4. Regular programmed ***operator maintenance*** tasks are carried out
8. Clean up	8.1. Work area is cleared and materials disposed of or recycled 8.2. Plant, tools and equipment are cleaned, checked, maintained and stored

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following as required to conduct telescopic materials handler operations:

- apply legislative, organisation and site requirements and procedures for conducting telescopic materials handler operations
- apply operational safety requirements
- access interpret and apply technical information
- calculate volume, weights
- maintain equipment records
- apply fault finding techniques
- comply with environmental requirements
- dispose of environmentally sensitive fluids and materials

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following as required to conduct telescopic materials handler operations:

- telescopic materials handler types, characteristics, technical capabilities and limitations
- site and equipment safety requirements
- techniques for calculating safe working loads
- telescopic materials handler and attachment operating techniques related to essential tasks
- processes for interpreting drawings and sketches
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- materials safety data sheet and materials handling methods
- project quality requirements
- methods of changing machine attachments
- safe operating techniques in all terrain
- basic earthworks calculations
- levelling techniques
- JSA's/safe work method statement

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for conducting telescopic materials handler operations • implementation of requirements, procedures and techniques for the safe, effective and efficient conduct of telescopic materials handler operations • working with others to undertake and conduct telescopic materials handler operations that meets all of the required outcomes • consistent timely conduct of materials handler operations that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job.

	• Customisation of assessment and delivery environment should sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.

Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:
	• written and/or oral assessment of the candidate's required knowledge
	• observed, documented and/or first hand testimonial evidence of the candidate's:
	  • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes
	  • consistent achievement of required outcomes
	• first hand testimonial evidence of the candidate's:
	  • working with others to undertake and complete the conduct of telescopic materials handler operations

Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • environmental requirements including those outlined in organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management • quality requirements including dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction • graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, materials safety data sheet (MSDS) and diagrams or sketches • safe work procedures related to the operation of telescopic materials handlers on construction sites • regulatory/legislative requirements pertaining to telescopic materials handler operations and the environment • instructions issued by authorised organisational or external personnel • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Safety requirements may include:	• State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment,

	hazard control and hazardous materials and substances • personal protective equipment, which is to include that prescribed under legislation, regulation and workplace policies and practices • safe operating procedures, which are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public • emergency procedures include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational First Aid requirements and evacuation
Tools and equipment may include:	• tools and equipment are to include hand tools, lifting equipment including chains and slings and maintenance equipment relevant to the telescopic materials handler
Attachments may include:	• various types of buckets, various types of material handling arms (jibs), various types of forklift attachments and carriages and lifting hooks
Hazards may include:	• but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
Telescopic materials handler may include:	• (sometimes referred to as a 'telehandler') is a self-propelled wheeled machine with a hydraulically operated telescopic boom assembly. It is a versatile machine due to its manoeuvring capabilities, reach height and the varying types of attachments that may be fitted generally via the integral quick coupler. On some equipment there may also be outriggers fitted • tasks are to include lifting and carrying materials and may include forklift activities and working with front bucket attachments
Communication may include:	• communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions,

	written instructions or instructions related to job/task • on site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues
Safe working load requirements may include:	• equipment load charts are provided for each attachment fitted to telescopic materials handlers. For each attachment utilised correct understanding and use of the applicable load chart is mandatory
Safely parked includes:	• ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
Operator maintenance may include:	• cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

Unit Sector(s)

Load Handling

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

RIIMPO308B Conduct tracked dozer operations

Modification History

Not applicable.

Unit Descriptor

This unit covers conducting tracked dozer operations in the mining and extractive industries. It includes planning and preparing for operations, operating the dozer, carrying out post-operational procedures.

Application of the Unit

This unit is appropriate for those working in mobile plant operator roles, at worksites within:

- Coal mining
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1. Access, interpret and apply ***compliance documentation*** relevant to conducting tracked dozer operations 1.2. Obtain, interpret and clarify ***work requirements and procedures*** for the satisfactory completion of the allocated job 1.3. Access, interpret and apply ***geological*** and ***survey data*** required to complete the allocated job 1.4. ***Inspect and prepare work area*** in coordination with others 1.5. Identify, manage and report ***potential hazards and risks*** 1.6. Resolve ***coordination requirements*** with others at the site prior to commencing and during work activities 1.7. Select personal protective equipment appropriate for work activities
2. Operate the dozer	2.1. Carry out ***pre-start***, ***start-up***, ***park-up and shutdown procedures*** 2.2. Select and modify the ***operating technique*** to appropriately meet ***changing work conditions*** 2.3. Conduct, control and monitor operations within the equipment limitations 2.4. Connect and tow or push equipment and plant safely and in accordance with the authorised equipment and connection capacity 2.5. Act on or report ***monitoring systems and alarms*** 2.6. Recognise and respond to ***hazardous and emergency situations*** 2.7. Complete work in accordance with the agreed work requirements and within the operating capacity of the allocated equipment
3. Carry out post-operational procedures	3.1. Inspect, fault find and report faults 3.2. Carry out routine ***operator servicing***, ***maintenance and housekeeping tasks***

	3.3. Maintain and process ***records and reports***

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to conduct tracked dozer operations:

- apply legislative, organisation and site requirements and procedures
- apply site safety requirements
- access, interpret and apply technical information
- apply equipment records maintenance procedures
- apply diagnostic techniques
- use relevant hand tools
- apply environmental requirements
- apply procedures for disposal of environmentally sensitive fluids and materials
- apply chemical and fuel safety measures
- work wearing personal protective equipment
- interpret plans, reports, maps, specifications
- apply manual lifting techniques
- organise work tasks
- work in a team

Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following as required to conduct tracked dozer operations:

- site risk control procedures
- site and equipment health and safety procedures
- site environmental requirements and constraints
- site quality requirements
- site communication procedures
- site product characteristics
- basic site geological and survey data
- site operational procedures
- dozer operational procedures and techniques (including towing and pushing)
- dozer maintenance systems and procedures
- dozer characteristics, technical capability and limitations
- hazard identification and response procedures
- site record keeping requirements

- site personal protective equipment requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for conducting tracked dozer operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of tracked dozer operations • working with others to undertake and complete tracked dozer operations that meet all of the required outcomes • consistent timely completion of tracked dozer operations that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second

	language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.

Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:
	• written and/or oral assessment of the candidate's required knowledge
	• observed, documented and/or first hand testimonial evidence of the candidate's:
	  • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes
	  • consistently achieving the required outcomes
	• first hand testimonial evidence of the candidate's:
	  • working with others to undertake and complete tracked dozer operations

Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • codes of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Work requirements and procedures may come from briefings, handovers, and work orders and may be written or verbal, formal or informal, depending on the complexity of the process and may include:	• material identification • nature and scope of tasks • achievement targets • operational conditions • obtaining permits required • site layout • out of bounds areas • worksite inspection requirements • lighting conditions • plant or equipment defects • hazards and potential hazards • coordination requirements or issues • contamination control requirements • environmental control requirements • barricade and signage requirements
Geological data may include relevant site-specific information in relation to:	• rock type and characteristics • faults and joints • broken ground • water tables or other water sources • wet and dry areas • degree of compaction
Survey data may include relevant site-specific information in relation to:	• floor heights • bench heights and widths • ramp and floor grades • road profile requirements

	• finished work tolerances • underground workings and voids

Inspect and prepare work area may include:	• identification of hazards
	• selection and implementation of control measures for the hazards identified
	• safeguarding site and non-site personnel by:
	  • erection of barricades and posting of signs
	  • selection of appropriate equipment to ensure personnel safety and protection
	• determination of appropriate path of movement for loads and equipment/vehicles
	• floor clean up to specified levels and grade requirements
	• selection and implementation of environmental control measures

Potential hazards and risks may include:	• installed services
	• damaged or defective pressurised hoses and fastenings
	• abandoned equipment
	• adjoining pit walls or structures
	• adverse weather conditions (electrical storms, floods, fires)
	• chemicals
	• contaminants
	• ancillary equipment
	• fences
	• holes and pot holes
	• over-hanging rocks
	• personnel
	• unsafe ground
	• unstable faces
	• vehicles
	• powerlines
	• dust and noise
	• conveyors
	• overhead services
	• stored energy which may include:
	  • engine components
	  • radiators and cooling systems
	  • hydraulic tanks and reservoirs
	  • air tanks and reservoirs
	  • hydraulic hoses

	• air hoses • air conditioning components • electrical components • braking systems • centrifugal forces
Coordination requirements may include with:	• other mobile plant operators • processing plant operators • maintenance personnel • water truck operators • service vehicle operators • crane and float operators • contractors • inspectors • supervisors • visitors • use of 2-way radios
Pre-start and start-up procedure may include:	• external check of the machine • inspection of attachments to ensure security and identify defects • selection, removing and fitting of attachments • checking of fluid levels (windscreen washer tank, hydraulic oil, coolant, grease, water, engine oil, fuel) • carry out lubrication • checking of display instrumentation and gauges (indicators, gauges, laser levels), computer systems • inspection of air filter restriction indicator • inspection and checking of cab (horn, lights, air conditioner) • testing of engine and stop engine lights • testing visual and audio warning devices and lights • checking instruments and control lever • reporting of defects and damage
Park-up and shutdown procedure may include:	• secure equipment as required by site procedures • render attachments safe • clear access ways
Operating techniques may include:	• manoeuvring • blade control and application • ripper control and application

	• towing
	• pushing
	• building and maintaining stockpiles
	• attaching, securing, lifting, carrying and placing materials
	• driving machines on to floats
	• observing site speed limits
	• working safely around:
	  • high bench walls
	  • overhead powerlines
	  • other machines and personnel
	  • live stockpiles

Changing work conditions may include variations in:	• bulk material grades • height of stockpiles • height of walls • materials • contamination • materials handling facilities • weather conditions • light conditions (including day and night) • broken ground • degree of compaction • location of water table • slope of working surface • stable ground (compaction) amount of scale • wet and dry • working over old underground workings and voids
Monitoring systems and alarms may include:	• brake air pressure • oil temperature • computer indicators • engine oil pressure • fuel filter • parking brake • braking • service meter • speedometer/odometer • steering filters • tachometer • torque converter • transmission filter • voltmeter

	• water temperature
Hazardous and emergency situations may include:	• powerlines and other overhead services • dust and noise • face overhangs • live stockpile
Operator service, maintenance and housekeeping tasks are those established and authorised for the site and may include:	• cleaning • authorised servicing • monitoring, recording and reporting of faults • conduct of authorised minor replacements • provision of assistance to maintenance personnel during maintenance and repair activities
Records and reports may include:	• fuel usage • computer readings • end of shift documentation • supplies logs • work logs stockpile information • quality information • despatch details

Unit Sector(s)

Mobile Plant Operations

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

RIIMPO309A Conduct wheeled dozer operations

Modification History

Not applicable.

Unit Descriptor

This unit covers conducting wheeled dozer operations in resources and infrastructure industries. It includes: planning and preparing for operations; operating wheeled dozers; and carrying out operator maintenance.

Application of the Unit

This unit is appropriate for those working in mobile plant operator roles, at worksites within:

- Civil construction
- Coal mining
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1. Access, interpret and apply ***compliance documentation*** relevant to wheeled ***dozer operations*** 1.2. Obtain, interpret and clarify/confirm ***work requirements*** in the form of shift briefings, handover details or work orders before proceeding 1.3. Access, interpret and apply ***geological and survey data*** required to complete the allocated work 1.4. Access and apply ***safety information and requirements*** throughout the work
2. Operate wheeled dozer	2.1. Resolve ***coordination*** activities with others at the site prior to commencement of, and during the work activity 2.2. Carry out pre-start, start-up, park-up and shutdown procedures 2.3. Control speed and articulated steering of the wheeled dozer during tramming operations 2.4. Use dozer controls and functions effectively, including manoeuvre, blade and ripper to complete specified tasks 2.5. Carry out towing of equipment and plant safely and in accordance with authorised equipment and/or connection capabilities 2.6. Maintain safe grip, traction and productivity in varied ***operating conditions*** 2.7. Act on or report monitoring systems and alarms 2.8. Recognise and respond to hazardous and emergency situations 2.9. Complete work in accordance with the agreed plan and outcomes and within the operating capabilities of the allocated equipment
3. Carry out operator maintenance	3.1. Carry out dozer inspections and fault-finding 3.2. Carry out authorised routine operational servicing, lubrication and housekeeping tasks

	3.3. Carry out authorised minor maintenance 3.4. Process records

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to conduct wheeled dozer operations:

- apply legislative, manufacturer's, organisation and site requirements and procedures
- access, interpret and apply technical information
- maintain equipment records
- use relevant hand tools
- apply problem solving techniques
- apply basic diagnostic techniques
- apply equipment operating procedure
- apply effective communication techniques

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to conduct wheeled dozer operations:

- site and equipment safety requirements
- site operational procedures
- wheeled dozer characteristics, technical capabilities and limitations
- wheeled dozer operational procedures
- wheeled dozer instrumentation and controls
- wheeled dozer maintenance systems and procedures
- basic geological and survey data
- hazard identification and response procedures
- site environmental requirements and constraints related to dozer operations

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for conducting wheeled dozer operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of wheeled dozer operations • working with others to undertake and complete wheeled dozer operations that meet all of the required outcomes • consistent timely completion of wheeled dozer operations that safely, effectively and efficiently meet the required outcomes
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second

	language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.

Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:
	• written and/or oral assessment of the candidate's required knowledge
	• observed, documented and/or first hand testimonial evidence of the candidate's:
	  • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes
	  • consistently achieving the required outcomes
	• first hand testimonial evidence of the candidate's:
	  • working with others to undertake and complete wheeled dozer operations

Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • codes of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation

Dozer operations/tasks may include:	• ripping
	• pushing and preparing overburden
	• ripping and pushing may include:
	  • working under high walls
	  • working in cable areas
	  • highwall chaining
	• supporting other equipment
	• trimming or cutting
	• inter burden and coal handling
	• bench and pad preparation
	• maintenance and civil works
	• working in dumps which may include:
	  • creation of windrows
	  • dump establishment
	• civil works which may include:
	  • road works
	  • contours
	  • batters
	  • rehabilitation and drainage
	  • final landform and the interpretation of associated survey pegs
	  • sealing tailing dams
	• towing and pushing which may include:
	  • lighting plants
	  • pumps

	• cable boats • towers • sleds • transformers • other equipment

Work requirements may include:	• product identification
	• nature and scope of tasks
	• achievement targets
	• operational conditions
	• obtaining permits required
	• site layout
	• out-of-bounds areas
	• worksite inspection requirements
	• lighting conditions
	• plant or equipment defects
	• hazards and potential hazards
	• coordination requirements or issues
	• shift details, including:
	  • the plant identification/allocation
	  • working conditions
	  • defects to equipment

Geological data may include relevant site specific information in relation to:	• material type and characteristics • faults and joints • coal seams • water tables or other water sources
Survey data may include relevant site specific information in relation to:	• floor heights • bench widths • grades • laser levelling • set out • GPS control
Safety information may include:	• legislation and regulations • relevant Australian standards • management systems and plans • OHS policy • code of practice • safe working procedures (or equivalent)
Specific **safety requirements** are to include:	• boarding and disembarkation procedures • operational signal procedures • implement lowering and lifting

Coordination with others may include:	• other earthmoving equipment • water carts or trucks • materials handling equipment • light vehicles • lighting plant • use of 2-way radios • reporting defects either verbally or in writing • hand signal
Operating conditions may include:	• visibility day and night • prevailing winds • wet and slippery conditions • loose materials • fog • dust

Unit Sector(s)

Mobile Plant Operations

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

RIIMPO318B Conduct civil construction skid steer loader operations

Modification History

Not applicable.

Unit Descriptor

This unit covers conducting skid steer loader operations in the civil construction industry. It includes: planning and preparing; conducting machine pre-operational checks; operating skid steer loaders; lifting, carrying and placing materials; selecting, removing and fitting attachments; relocating the skid steer loaders; carrying out machine operator maintenance; and cleaning up.

Application of the Unit

This unit is appropriate for those working in operational roles, at worksites within:

- Civil construction

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply ***compliance documentation*** relevant to ***skid steer loader tasks*** 1.2. Obtain, confirm and apply ***work instructions*** to the allotted task 1.3. Obtain, confirm and apply ***safety requirements*** to the allotted task 1.4. Obtain, identify and implement signage requirements from the project traffic management plan 1.5. Select plant, ***tools and equipment*** to carry out tasks that are consistent with the requirements of the job, check them for serviceability and rectify or report any faults 1.6. Identify, confirm and apply ***environmental*** protection requirements from the project environmental management plan, to the allotted task
2. Conduct machine pre-operational checks	2.1. Carry out pre-start, start-up, park and shutdown procedures 2.2. Check loader controls and functions, including implements or other attachments, brakes and manoeuvrability for serviceability and rectify or report any faults
3. Operate skid steer loader	3.1. Identify site hazards associated with skid steer loader operations and use safe operating techniques to minimise risk 3.2. Identify and apply operating techniques for skid steer loader to achieve optimum output in accordance with manufacturer's design specifications while achieving specified tolerances 3.3. Operate loader to work instructions
4. Lift, carry and place materials	4.1. Conduct ***communication*** practices associated with transportation and lifting of ***materials*** in accordance with site specific practices and procedures, and confirm between parties 4.2. Select, attach and apply slings and lifting

	gear in accordance with safe working load requirements as identified in legislation 4.3. Establish weight of load 4.4. Position machinery to ensure stability and locate to effectively shift materials according to job specifications 4.5. Shift load safely and effectively 4.6. Move load in accordance with conventional hand and available signals
5. Select, remove and fit attachments	5.1. Select ***attachment*** for the task 5.2. Remove and fit attachment 5.3. Test attachment to ensure correct fitting and operation as specified 5.4. Use attachment in accordance with recommendations and design limits 5.5. Clean and store removed attachments in designated location
6. Relocate the skid steer loader	6.1. Move skid steer loader safely between worksites, observing relevant codes and traffic management requirements 6.2. Prepare for relocation of skid steer loader
7. Carry out machine operator maintenance	7.1. Safely park, shutdown and prepare machine for ***maintenance*** 7.2. Conduct inspection and fault finding 7.3. Remove and replace defective parts safely and effectively 7.4. Carry out regular programmed maintenance tasks
8. Clean up	8.1. Clear work area and dispose of or recycle materials in accordance with project environmental management plan 8.2. Clean, check, maintain and store plant tools and equipment

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to conduct civil construction skid steer loader operations:

- apply legislative, organisation and site requirements and procedures
- apply site and equipment safety requirements
- perform safe working load calculations
- apply skid steer loader operating techniques
- apply processes for interpreting drawings and sketches
- apply operational, maintenance and basic diagnostic procedures
- apply site isolation and traffic control responsibilities and authorities
- apply project quality requirements
- use civil construction terminology
- apply methods of changing machine attachments
- apply safe operating techniques in all terrain
- apply basic earthworks calculations
- apply levelling techniques

Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following as required to conduct civil construction skid steer loader operations:

- skid steer loader types, characteristics, technical capabilities and limitations
- basic principles of soil technology for civil works
- site and equipment safety requirements
- techniques for calculating safe working loads
- skid steer loader techniques related to essential tasks
- processes for interpreting drawings and sketches
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- materials safety data sheet and materials handling methods
- Project Quality Requirements
- civil construction terminology
- methods of changing machine attachments
- safe operating techniques in all terrain
- basic earthworks calculations

- civil construction activity sequences of road construction, earthworks and drainage
- levelling techniques
- JSAs/Safe work method statement

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	

Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:
	• knowledge of the requirements, procedures and instructions for conducting civil construction skid steer loader operations
	• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of civil construction skid steer loader operations, including:
	  • in a minimum of two different soil types, and
	  • to include the mandatory tasks of stripping/ spreading topsoil and materials, lifting, loading vehicles, excavations, mixing materials and site clean-up
	• working with others to undertake and complete civil construction skid steer loader operations that meet all of the required outcomes
	• consistent timely completion of civil construction skid steer loader operations that safely, effectively and efficiently meet the required outcomes

Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example,

	language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.

Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:
	• written and/or oral assessment of the candidate's required knowledge
	• observed, documented and/or first hand testimonial evidence of the candidate's:
	  • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes including:
	• in a minimum of two different soil types, and
	• to include the mandatory tasks of stripping/ spreading topsoil and materials, lifting, loading vehicles, excavations, mixing materials and site clean-up
	  • consistently achieving the required outcomes
	• first hand testimonial evidence of the candidate's:
	  • working with others to conduct civil construction skid steer loader operations

Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • codes of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
A **skid steer loader** is:	• a self-propelled wheeled machine in which steering is accomplished by skidding or reversing the wheels or tracks on one side of the machine. It has an integral front-mounted bucket-supporting structure and linkage, which loads or excavates through forward motion of the machine, and lifts, transports and discharges material
Skid steer loader may include:	• compacting, truck excavation, lifting and carrying materials, cutting batters and benches, rock breaking and any activities associated with attachments listed
Skid steer loader tasks are to include:	• stripping/spreading topsoil and materials, backfilling, lifting, loading vehicles, excavations, mixing materials and site clean-up
Work instructions may include:	• plans, specifications, quality requirements and operational details • quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction
Safety requirements are to be:	• in accordance with state or territory legislation and regulations, organisational safety policies and procedures, and project safety plan
Safety requirements may	• protective clothing and equipment, use of tools and equipment, workplace environment and

include:	safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances • personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices • safe operating procedures which are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public • safe parking practices which is to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, a safe distance from excavations, and secured from unauthorised access or movement • hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials • emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational First Aid requirements and evacuation
Tools and equipment are to include:	• hand tools and maintenance equipment relevant to the particular loader
Environmental requirements are to include:	• organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management
Communications practices are to include:	• verbal instructions and fault reporting and may include two-way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task • on-site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues

Materials may include:	• clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction site materials/waste and bituminous mixes • rock types may include metamorphic, igneous and sedimentary • construction materials may include pegs, wire, cordage, safety equipment and other support equipments
Attachments may include:	• a front end loader (FEL), multipurpose 4:1 bucket, forklift, dozer blade, backhoe, auger, chain digger, power broom, profiler, tiller/mixer, rotary hoe, hammer, asphalt cutter/saw, concrete cutter/saw
Operator **maintenance** is to include:	• cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

Unit Sector(s)

Mobile Plant Operations

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

RIIMPO319A Conduct backhoe/loader operations

Modification History

Not applicable.

Unit Descriptor

This unit covers the conducting backhoe/loader operations in the civil construction industry. It includes: planning and preparing; conducting machine pre-operational checks; operating backhoe/ loaders; lifting, carrying and placing materials; selecting, removing and fitting attachments; relocating the backhoe/ loaders; carrying out machine operator maintenance; and cleaning up.

Application of the Unit

This unit is appropriate for those working in mobile plant operator roles, at worksites within:

- Civil construction

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply ***compliance documentation*** relevant to conduct ***backhoe/loader tasks*** 1.2. Obtain, confirm and apply ***work instructions*** to the allotted task 1.3. Obtain, confirm and apply ***safety requirements*** to the allotted task 1.4. Identify, obtain and implement signage requirements from the project traffic management plan 1.5. Select plant, ***tools and equipment*** to carry out tasks that are consistent with the requirements of the job, check them for serviceability and rectify or report any faults 1.6. Identify, confirm and apply ***environmental*** protection requirements from the project environmental management plan, to the allotted task
2. Conduct machine pre-operational checks	2.1. Carry out ***pre-start***, ***start-up***, ***park and shutdown procedures*** 2.2. Check machine controls and functions, including implements or other attachments, brakes and manoeuvrability for serviceability and rectify or report any faults
3. Operate backhoe/ loader	3.1. Identify site hazards associated with backhoe/loader operations and use safe operating techniques to minimise risk 3.2. Identify and apply operating techniques for backhoe/loader to achieve optimum output in accordance with design specifications while achieving specified tolerances 3.3. Operate machine to work instructions
4. Lift, carry and place materials	4.1. Conduct ***communication*** practices associated with transportation and lifting of ***materials*** 4.2. Select and attach slings and lifting gear in accordance with safe working load requirements 4.3. Establish weight of load

	4.4. Position and locate machinery to ensure stability to effectively shift materials according to job specifications 4.5. Shift load safely and effectively 4.6. Move load in accordance with conventional hand and audible signals
5. Select, remove and fit attachments	5.1. Select ***attachment*** for the task 5.2. Remove and fit attachment 5.3. Test attachment to ensure correct fitting and operation 5.4. Use attachment in accordance with recommendations and design limits 5.5. Clean and store removed attachments in designated location
6. Relocate the backhoe/ loader	6.1. Move backhoe/loader safely between worksites, observing relevant codes and traffic management requirements 6.2. Prepare backhoe/loader for relocation
7. Carry out machine operator maintenance	7.1. Park safely, shutdown and prepare machine for ***maintenance*** 7.2. Conduct inspection and fault finding 7.3. Remove, replace safely and effectively defective parts 7.4. Carry out regular programmed maintenance tasks
8. Clean up	8.1. Clear work area and dispose of or recycle materials in accordance with project environmental management plan 8.2. Clean, check, maintain and store plant, tools and equipment

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to conduct backhoe/loader operations:

- apply legislative, organisation and site requirements and procedures
- apply site and equipment safety requirements
- apply techniques for calculating safe working loads
- apply backhoe/loader techniques related to essential tasks
- interpret drawings and sketches
- apply operational, maintenance and basic diagnostic procedures
- apply site isolation and traffic control responsibilities and authorities
- interpret materials safety data sheet and materials handling methods
- apply project quality requirements
- use civil construction terminology
- apply methods of changing machine attachments
- apply safe operating techniques in all terrain
- carry out basic earthworks calculations
- apply levelling techniques
- interpret JSA's/Safe work method statement

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to conduct backhoe/loader operations:

- backhoe/loader types, characteristics, technical capabilities and limitations
- basic principles of soil technology for civil works
- site and equipment safety requirements
- techniques for calculating safe working loads
- backhoe/loader techniques related to essential tasks
- processes for interpreting drawings and sketches
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- materials safety data sheet and materials handling methods
- project quality requirements
- civil construction terminology
- methods of changing machine attachments

- safe operating techniques in all terrain
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage
- levelling techniques
- JSA's/Safe work method statement

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	

Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:
	• knowledge of the requirements, procedures and instructions for conducting backhoe/loader operations
	• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of backhoe/ loader operations, including:
	  • in a minimum of two different soil types and
	  • to include the mandatory tasks: mixing materials, stripping/spreading topsoils and materials, trench excavation, backfilling, lifting and carrying materials, loading dump trucks, wagons, hoppers, chutes, and cutting/boxing
	• working with others to undertake and complete backhoe/ loader operations that meet all of the required outcomes
	• consistent timely completion of backhoe/loader operations that safely, effectively and efficiently meet the required outcomes

Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not

	disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.

Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:
	• written and/or oral assessment of the candidate's required knowledge
	• observed, documented and/or first hand testimonial evidence of the candidate's:
	  • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes, including:
	• in a minimum of two different soil types and
	• the mandatory tasks: mixing materials, stripping/spreading topsoils and materials, trench excavation, backfilling, lifting and carrying materials, loading dump trucks, wagons, hoppers, chutes, and cutting/boxing
	  • consistently achieving the required outcomes
	• first hand testimonial evidence of the candidate's:

	• working with others to undertake and complete the backhoe/loader operations
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • codes of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
A **backhoe/loader** is:	• a self-propelled wheeled machine with a main structural support designed to carry both a front-mounted bucket loading mechanism and a rear-mounted backhoe
Backhoe/loader tasks are to include:	• mixing materials, stripping/spreading topsoils and materials, trench excavation, backfilling, lifting and carrying materials, loading dump trucks, wagons, hoppers, chutes and cutting/boxing
Backhoe/loader tasks may include:	• scrub clearing, ripping, compacting, cutting, batters and benches, rock breaking, demolition and any activities associated with the attachments listed
A **skid steer loader** is:	• a self-propelled wheeled machine in which steering is accomplished by skidding or reversing the wheels or tracks on one side of the machine. It has an integral front-mounted bucket-supporting structure and linkage, which loads or excavates through forward motion of the machine, and lifts, transports and discharges material
Skid steer loader may include:	• compacting, truck excavation, lifting and carrying materials, cutting batters and benches, rock breaking and any activities associated with attachments listed
Skid steer loader tasks are to include:	• stripping/ spreading topsoil and materials, backfilling, lifting, loading vehicles, excavations, mixing materials and site clean

	up
Work instructions may include:	• plans, specifications, quality requirements and operational details • quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction
Safety requirements are to be:	• in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan
Safety requirements may include:	• protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances • personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices • safe operating procedures which are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public • safe parking practices which is to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement • hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials • emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational First Aid requirements and evacuation
Tools and equipment are to	• hand tools and maintenance equipment

include:	relevant to the particular loader and may include lifting equipment
Environmental requirements are to include:	• organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management
Communications practices are to include:	• verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task • on site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues
Materials may include:	• clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction site materials/waste and bituminous mixes • rock types may include metamorphic, igneous and sedimentary
Attachments may include:	• extending devices, tilt bucket, buckets, compaction wheel, ripper, plate compactor, rock breaker, auger, broom, mower/slasher, forklift, 4 in 1 bucket and free/rock grab
Operator **maintenance** is to include:	• cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

Unit Sector(s)

Mobile Plant Operations

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

TLIC2025A Operate four wheel drive vehicle

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to operate a four wheel drive vehicle safely in a range of conditions. These include driving a four wheel drive vehicle on normal roads, traversing slopes, ascending and descending steep slopes and stall recovery. It also includes operation of the vehicle in rugged terrain, the use of a jack and the completion of all pre- and post-operational checks. Licensing, legislative, regulatory or certification requirements may be applicable to this unit. Provisional car licence must be held prior to the commencement of this unit of competency for driving on public land/roads.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority.

Driving is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of four wheel drive vehicle operating principles and procedures to maintain the safety and operation of a commercial four wheel drive vehicle across a variety of on-road and off-road contexts.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Operate four wheel drive vehicles on normal roads	1.1 Pre-start checks of vehicle and equipment are carried out to manufacturers specifications and roadworthy requirements 1.2 Tyres are checked for pressure suitable for terrain and/or changed in accordance with workplace procedures 1.3 Loads are secured in accordance with workplace and legislative requirements 1.4 Vehicle is driven on-road and off-road to legislative and workplace requirements, at appropriate speeds for conditions and hazards 1.5 Vehicle is parked and shut down in accordance with workplace and manufacturers requirements
2 Operate vehicle on, or across, a slope	2.1 Pre-start checks of vehicle and equipment are carried out to manufacturers specifications and roadworthy requirements 2.2 Tyres are checked for pressure suitable for terrain and/or changed to operational guidelines 2.3 Loads are secured in accordance with workplace and legislative requirements 2.4 Vehicle is driven on-road and off-road to regulatory and workplace requirements at appropriate speeds for conditions and hazards
3 Operate vehicle ascending a steep slope including stall recovery	3.1 Intended vehicle path is inspected prior to negotiation of slope 3.2 Appropriate gear is selected to ascend grade, and engine revolutions are maintained to ensure constant traction 3.3 Air-conditioning unit is turned off to avoid engine acceleration 3.4 Foot brake is applied as vehicle stalls, handbrake applied and ignition turned off 3.5 Clutch is depressed and reverse gear is selected 3.6 Clutch is released and handbrake is slowly released 3.7 Ignition is turned on and brakes are released 3.8 Vehicle is started and allowed to reverse down the slope 3.9 Brakes are applied as necessary to control descent
4 Operate vehicle descending a steep slope including stall recovery	4.1 Intended vehicle path is inspected prior to negotiation of the slope 4.2 Appropriate gear is selected to ascend grade, and engine revolutions are maintained to ensure constant traction 4.3 Air-conditioning unit is turned off to avoid engine acceleration 4.4 Braking is used to control descent and skidding is avoided by the application of brakes to emulate ABS 4.5 Ignition is turned off, foot brake is applied, and handbrake

ELEMENT	PERFORMANCE CRITERIA
	engaged
	4.6 Clutch is depressed and low gear is selected
	4.7 Clutch is released and handbrake is slowly released
	4.8 Ignition is turned on and brakes are released
	4.9 Vehicle is started and allowed to continue down the slope
	4.10 Brakes are applied as necessary to control descent and skids are steered into
5 Operate vehicle in rugged terrain	5.1 Intended vehicle path is inspected prior to negotiation of rugged terrain
	5.2 Correct gear/range is selected to negotiate terrain
	5.3 Freewheel hubs are engaged and disengaged in accordance with driving conditions
	5.4 Vehicle controls are set in accordance with manufacturers instructions for operation in the surrounding terrain
	5.5 Traction is maintained in accordance with requirements of the vehicle and the surrounding terrain
	5.6 Selection of appropriate gear/range before negotiating terrain is demonstrated
	5.7 Where necessary, chains are fitted to vehicle in accordance with manufacturers instructions
	5.8 Vehicle load is inspected, positioned and secured to maximise traction for four wheel driving
	5.9 Terrain is negotiated in accordance with requirements for specific driving conditions
6 Operate jack	6.1 Jack is located under vehicle in accordance with vehicle manufacturers specifications and workplace procedures
	6.2 Jack is used and operated in accordance with manufacturers specifications and workplace procedures
7 Complete operations	7.1 Vehicle is parked and shut down to workplace and manufacturers requirements
	7.2 Faults or malfunctions are corrected and/or reported in accordance with workplace requirements
	7.3 Vehicle and equipment are cleaned and stored after use in accordance with workplace requirements
	7.4 Any reports required by the workplace are completed in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Workplace procedures for the operation of four wheel drive vehicle in both on-road and off-road situations
- Problems that may occur when operating a four wheel drive vehicle, and action that can be taken to report or resolve the problems
- Hazards that may exist when operating a four wheel drive vehicle in both on-road and off-road situations, and ways of controlling the risks involved
- Vehicle controls, instruments and indicators and their use
- Vehicle handling procedures and techniques for a range of conditions, including rock, mud, sand, ice and snow
- Procedures to be followed in the event of a driving emergency
- Efficient driving techniques and safe driving strategies
- The effect on the centre of gravity of changing fluid loads
- Hazards and risks associated with traversing cross slopes
- Effects of hard surface driving (such as highway wind up) on the 4x4 system
- The appropriate use of diff locks
- Pre- and post-operational checks and related action
- Documentation and record keeping requirements
- Environmental impact of 4X4 driving

Required skills:

- Communicate effectively with others when operating a four wheel drive vehicle
- Read and interpret instructions, procedures, information and signs relevant to the operation of a four wheel drive vehicle
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to work activities
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when operating a four wheel drive vehicle
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when operating a four wheel drive vehicle in accordance with regulatory requirements and

Required skills:

workplace procedures

- Implement contingency plans for unexpected situations that may arise when operating a four wheel drive vehicle
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Monitor performance of four wheel drive vehicle and its equipment, and take appropriate action if required
- Conduct pre-start checks
- Monitor and anticipate traffic hazards and take appropriate action
- Drive vehicles in a range of conditions
- Demonstrate emergency procedures in the operation of vehicles
- Identify and correct minor operational faults
- Clean and store vehicles and equipment
- Skills and attitude to reduce environmental impact

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	• The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of: • applying the underpinning knowledge and skills • demonstrating operation of a 4x4 vehicle

EVIDENCE GUIDE

	• applying relevant legislation and workplace procedures

Context of and specific resources for assessment	• Performance is demonstrated consistently over a period of time and in a suitable range of contexts
	• Resources for assessment include:
	  • a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
	  • access to an appropriate range of relevant operational situations in the workplace
	• In both real and simulated environments, access is required to:
	  • relevant and appropriate materials and equipment, and
	  • applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment	• As a minimum, assessment of knowledge must be conducted through appropriate assessments using written/practical/oral assessments
	• Practical assessment must occur:
	  • through activities in an appropriately simulated environment, and/or
	  • in an appropriate range of situations in the workplace
	• A simulator/online assessment is not suitable for the final assessment of this unit of competency

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Vehicles include:	• all terrain vehicles • cars and utilities • a range of trailers • light trucks
Operations may be carried out in typical four wheel drive situations,	• by day or night • typical weather conditions

RANGE STATEMENT

including:	• on the open road • in rugged terrain off-road conditions that can be smooth, rough, uneven, slippery, boggy, sandy, steep or hilly • on a steep slope • during emergency response • while at a client's workplace or worksite
Vehicle handling procedures may include:	• starting a vehicle • steering and manoeuvring a vehicle • accelerating and braking • positioning and stopping a vehicle • reversing a vehicle • operating vehicle controls, instruments and indicators • using defensive driving techniques • managing engine performance
Considerations when driving may include:	• operational characteristics of the type of four wheel drive vehicle • workplace procedures • traffic conditions • levels of emergency response • adverse weather • traffic regulations • warning devices • adverse terrain
Traffic conditions to be taken into account when driving may include:	• speed limits for operation • legal parking • traffic pattern and density • known peak periods and special community functions • effects of weather on roads • road surface/off-road terrain • visibility
Operational hazards may include:	• steep slopes and rugged terrain • wet and iced road/terrain • flooded road/terrain • oil on road • fire in vehicle • leaking fuel • faulty brakes • parked vehicles on the road • faulty steering mechanism on vehicle • pedestrians crossing the road

RANGE STATEMENT

	• animals and objects on road • windy or foggy sections of road/terrain
Workplace guidelines/procedures may include:	• pre- and post-operation checks • standards of operation • storage and usage of fuels and lubricants • policies and routines relating to wear and damage • precautions and safeguards • emergency response driving • driving in adverse terrain • driving in special environments • reporting routines
Pre-start checks may include:	• fuel, water, oil • brake and transmission fluid levels • battery water levels and electrolyte checks • tyres • belts • leads • hydraulic lines and connections • air cleaners • air-conditioners • brakes • off-road safety equipment in line with manufacturers recommendations
Manufacturers specifications may include:	• engine characteristics • systems warning function • four wheel drive operation • radius of turning circle • safety procedures
Installed devices may include:	• warning lights • tachometer • temperature gauge • electrical charging • ancillary systems indicator • speedometer • oil pressure • brake warning lights • audible warning devices • hose
Minor routine servicing may	• the replacement of blown globes in vehicle lights • replacement of broken fan belt

RANGE STATEMENT

include:	• replacement of blown fuse • door mirrors • repairs to rear tail-light lens • changing of tyres • repair of tyre punctures • replacement of broken coolant
Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • established procedures
Documentation/records may include:	• state/territory driving licence requirements • state/territory road rules • workplace driving instructions and procedures • vehicle manufacturers instructions, specifications and recommended driving procedures including preoperational checks of vehicle • emergency procedures • vehicle log book or record book (where required)
Applicable regulations, legislation and codes may include:	• relevant state/territory roads and traffic authority driving regulations and licence requirements pertaining to the class of four wheel drive vehicle • relevant state/territory road rules • relevant state/territory permit regulations and requirements • relevant state/territory OH&S legislation • relevant state/territory fatigue management regulations • relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field C - Vehicle Operation

TLILIC0012A Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor	This unit specifies the outcomes required to operate a vehicle loading crane with a capacity of 10 metre tonnes or more, mounted on a vehicle for the principle purpose of loading and unloading such a vehicle, including the application of load estimation and slinging techniques to move a load, for licensing purposes.

Application of the Unit

Application of the Unit	This unit requires the operator to plan the work, conduct routine checks, set up crane, transfer loads and shut down and secure crane. This unit is based on the requirements of the National Standard for Licensing Persons Performing High Risk Work. This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency	*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan work	1.1 Potential workplace ***hazards*** are identified 1.2 ***Hazard control measures*** are identified consistent with ***appropriate standards*** to ensure the safety of personnel and equipment 1.3 The weight of the load is identified and estimated in consultation with ***associated personnel*** (where applicable) 1.4 Suitable lifting points on the load are identified in consultation with ***associated personnel*** 1.5 Appropriate ***lifting equipment*** is obtained following consultation with ***associated personnel*** 1.6 ***Crane*** is ***appropriate*** to the load/s and workplace conditions 1.7 Appropriate paths for the movement of loads in the work area are inspected and determined 1.8 Appropriate ***communication methods*** are identified with ***associated personnel***
2. Conduct routine checks	2.1 ***Crane*** is visually checked for any damage or defects 2.2 All ***signage and labels*** are visible and legible according to the ***appropriate standard***. 2.3 Routine pre-operational crane checks are carried out according to ***procedures*** 2.4 All ***controls*** are located and identified 2.5 Crane ***service logbook*** is checked for compliance 2.6 ***Crane*** is started according to ***procedures*** and checked for any abnormal noises 2.7 All crane ***safety devices*** are tested according to ***procedures*** 2.8 Post-start operational checks are carried out according to ***procedures*** 2.9 All ***communication equipment*** is checked for serviceability 2.10 All damage and defects are reported and recorded according to ***procedures***, and appropriate action is taken
3. Set up crane	3.1 ***Ground suitability*** is checked 3.2 ***Crane*** is driven to the work area according to ***procedures*** 3.3 ***Crane*** is positioned for work application and ***stability*** according to ***procedures***

ELEMENT	PERFORMANCE CRITERIA
	3.4 Boom/jib and configuration data is input into the crane computer (as required) 3.5 Appropriate ***hazard prevention/control measures*** are applied to the work area according to ***procedures*** 3.6 All ***communications equipment*** is tested for functionality 3.7 ***Lifting equipment*** is prepared for load according to ***procedures*** 3.8 ***Load destination*** is prepared
4. Transfer loads	4.1 Loads are determined within the capacity of the crane 4.2 Boom/jib and hoist block is positioned over load following directions from ***associated personnel*** 4.3 ***Lifting equipment*** is attached and secured using ***defined techniques*** according to ***procedures*** 4.4 ***Test lift*** is carried out according to ***procedures*** 4.5 Loads are transferred using all ***relevant crane movements*** according to ***procedures*** and the ***appropriate standard*** 4.6 All required ***communication signals*** are correctly interpreted according to ***procedures*** and the ***appropriate standard*** 4.7 The load is landed ensuring stability and security from movement 4.8 ***Lifting equipment*** is removed or disconnected from load and/or lifting hook according to ***procedures*** (where applicable) 4.9 ***Crane*** is operated according to ***procedures*** 4.10 Load movement is monitored constantly ensuring safety to personnel and load, and crane stability 4.11 ***Unplanned and/or unsafe*** situations are responded to in line with ***procedures***
5. Shut down and secure crane	5.1 ***Crane*** boom/jib and equipment are stowed and secured according to ***procedures*** and the ***appropriate standard*** 5.2 Relevant motion locks and brakes are applied (where applicable) 5.3 Outriggers/stabilisers are stowed and secured according to ***procedures*** 5.4 Plates or packing are stowed and secured.

ELEMENT	PERFORMANCE CRITERIA
	5.5 ***Crane*** is ***shut down*** according to ***procedures***
	5.6 Routine post-operational crane checks are carried out according to ***procedures***
	5.7 ***Lifting equipment*** is stored according to ***procedures*** and the ***appropriate standards***
	5.8 All damage and defects are reported and recorded according to ***procedures***, and appropriate action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This describes the essential skills and knowledge and their level required for this unit.
Required skills:
• Accurately record and maintain information relating to crane operations • Use communication techniques in the workplace including hand signals, whistles and two-way radios • Use interpersonal communication skills at a level sufficient to communicate with other site personnel • Operate crane including all functions to their maximum extension in the loading and unloading of loads to the safe working rated capacity of the crane, in conjunction with other associated personnel • Use of lifting equipment and basic slinging techniques suitable for the loads to be loaded/unloaded as defined by workplace procedures • Apply risk assessment and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the vehicle loading crane (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions and vehicle tipping) • Use and interpret crane manufacturer's specifications and data, including load charts to enable the vehicle loading crane to be configured for the load • Verify problems and equipment faults and demonstrate appropriate response procedures
Required knowledge:
• Appropriate mathematical procedures for estimation of loads • Assessment of ground conditions to confirm that the site is suitable (e.g. firm, level and safe) to operate the crane • Awareness of the boom/jib movements and particularly the safe positioning of the operator for any lift

REQUIRED SKILLS AND KNOWLEDGE
• Commonwealth, state or territory OH&S legislation, standards and codes of practice relevant to the full range of processes for the crane class • Use of lifting equipment and basic slinging techniques suitable for the loads to be loaded/unloaded as defined by workplace procedures • Understanding of the hierarchy of hazard identification and control • Level of literacy to be able to read and comprehend manufacturer's instructions, procedures and safety signs • Organisational and workplace standards, requirements, policies and procedures for conducting operations for the crane class • Procedures for the recording, reporting and maintenance of workplace records and information • Typical routine problems encountered in the process and with equipment and adjustments required for correction • Crane characteristics and capabilities to allow the configuration of the crane to suit the range of loads

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the Training Package.	
Overview of assessment	• Successful assessment of this unit meets the competency requirement of the National Standard for Licensing Persons Performing High Risk Work. • State/territory OH&S regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OH&S matters.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	• Compliance with OH&S licensing legislation. • Communicate and work safely with others in the work area. • Assessment of ground conditions to confirm that the site is suitable (e.g. firm, level and safe) to operate the vehicle loading crane. • Risk assessment and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the vehicle loading crane (particular awareness of the risks associated with overhead powerlines/electrical cables, ground

EVIDENCE GUIDE	
	conditions, wind, pedestrians and tipping). • Set up, position stabilise and operate a vehicle loading crane including all functions to their maximum extension in the loading and unloading of loads to the safe working rated capacity. • Move loads from the vehicle to the ground and/or ground to the vehicle as described in the endorsed assessment tool. • Appropriate mathematical procedures for estimation of loads. • Use of lifting equipment and basic slinging techniques suitable for the loads to be loaded/unloaded as defined in the workplace procedures. • Awareness of the boom/jib movements and particularly the safe positioning of the operator for any lift.

Context of and specific resources for assessment	• Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument.
	• Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting.
	• Assessors must ensure that the assessment in the workplace is organised to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace.
	• Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints.
	• Assessment is to comply with appropriate standard requirements.
	• Applicants must have access to:
	  • Personal Protective Equipment (PPE) for the purpose of the Performance Assessment
	  • appropriate vehicle loading crane (10 metre tonne or more) and associated equipment in safe condition
	  • appropriate lifting gear in safe condition
	  • Suitable loads as specified by the endorsed Assessment Instrument

EVIDENCE GUIDE	
	• communication equipment (e.g. two-way radios, whistles, etc.) • other associated personnel to sling and direct the loads.
Method of assessment	• Assessment must be conducted using the endorsed Assessment Instruments. These Instruments provide advice on their application. • The use of '**simulators**' in the assessment of this unit of competency is **not acceptable**. • Assessment may be in conjunction with the assessment of other units of competency. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
Guidance information for assessment	• Further information about endorsed Assessment Instruments may be obtained from state/territory OH&S regulators.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.	
Hazards	May include but not limited to: • ground stability (e.g. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. powerlines, service pipes) • traffic (e.g. pedestrians, vehicles, other plant) • Insufficient lighting • environmental conditions (e.g. wind, lightning, storms, etc.) • positioning of crane operator • other specific hazards (e.g. dangerous materials)

RANGE STATEMENT	
Hazard control measures	Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk: 1 elimination 2 substitution 3 isolation 4 engineering control measures 5 using safe work practices 6 personal protective equipment
Appropriate standards	May include but not limited to: • codes of practice • legislation • Australian standards especially AS2550.1 - 2002 (6.5) • manufacturer's specifications • industry standards
Associated personnel	May include but not limited to: • doggers • riggers
Lifting equipment	May include but not be limited to: • chain slings • wire and synthetic slings • shackles • eyebolts
Crane	A crane with a capacity of 10 metre tonnes and above mounted on a vehicle for the principle purpose of loading and unloading such a vehicle
Appropriate	May include but not limited to: • crane capabilities • environmental conditions (e.g. wind, lightning, storms, etc.)
Communication method	May include but not limited to: • verbal and non-verbal language • written instructions

RANGE STATEMENT	
	• signage • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Signage and labels	May include but not limited to: • crane data plates/labels • load charts • crane decals • control labels
Procedures	May include but not limited to: • manufacturer's guidelines (instructions, specifications or checklists) • industry operating procedures • workplace procedures (work instructions, operating procedures, checklists)
Controls	May include but not limited to: • luffing levers • knuckling levers • hoisting and lowering levers • slewing levers including brake • boom extension levers (where fitted)
Service logbook	May include but not limited to: • any logbook • service book • history record system where the service and maintenance history is kept
Crane safety devices	May include but not limited to: • horns/sirens • audible and visual warning devices • lights
Communication equipment	May include but not limited to: • fixed frequency two-way radios • whistles
Ground suitability	May include but not limited to: • rough uneven ground

RANGE STATEMENT	
	• backfilled ground • soft soils • hard compacted soil • rock • bitumen • concrete
Stability	May include but not limited to: • deploying outriggers • establishing correct size plates or packing • correctly positioning plates or packing
Hazard prevention/control measures	May include but not limited to: • safety tags on electrical switches/isolators • insulated powerlines • safety observer used inside exclusion zone • disconnected power • traffic barricades and controls • pedestrian controls • trench covers • movement of obstructions • personal protective equipment • adequate illumination
Load destination	May include but not limited to: • ground • vehicles
Defined techniques	May include but not limited to: • fixed lifting points • basic reeved slings
Test lift	The load is lifted just clear of the lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure that: • near capacity loads do not overload the crane • loads of unusual shape or weight distribution are correctly slung • load measuring equipment can be used to verify the calculated weight of the load • all equipment is functioning properly • adjustments to the slinging can be made in a safe

RANGE STATEMENT	
	manner
Relevant crane movements	May include but not limited to: • luffing • slewing • knuckling • telescoping • raise and lower hoist
Communication signals	May include but not limited to: • stop - hand • stop - whistle • hoist up - hand • hoist up - whistle • hoist down - hand • hoist down - whistle • luff boom down - hand • luff boom down - whistle • luff boom up - hand • luff boom up - whistle • telescope out - hand • telescope out - whistle • telescope in - hand • telescope in - whistle
Unplanned and/or unsafe situations	May include but not limited to: • failure/loss of control (e.g. brakes and steering) • failure of equipment (e.g. hydraulic system) • environmental conditions (e.g. wind, lightning, storms, etc.)
Shut down	May include but not limited to: • retracting boom/jib (where applicable) • retracting hoist rope and hook block • folding boom/jib into the transport position • retracting outriggers/stabilisers • idling engine to stabilise temperature • turning off engine (where applicable) • removing key from ignition (where applicable) • locking and securing cabin (where applicable) • securing crane for travel

Unit Sector(s)

Not Applicable

TLILIC2001A Licence to operate a forklift truck

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor	This unit specifies the outcomes required for the operation of a powered industrial truck equipped with a mast and an elevating load carriage to which is attached a pair of fork arms or other attachment, for licensing purposes. This definition also includes a truck on which the operator is raised with the attachment for order-picking.

Application of the Unit

Application of the Unit	THIS UNIT REQUIRES THE OPERATOR TO BE ABLE PLAN THE WORK, CONDUCT ROUTINE CHECKS ON THE FORKLIFT, SHIFT LOADS IN A SAFE MANNER, AND SHUT DOWN AND SECURE THE EQUIPMENT AFTER THE COMPLETION OF OPERATIONS. This unit is based on the National Standard for Licensing Persons Performing High Risk Work. This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT *Elements describe the essential outcomes of a unit of competency.*	**PERFORMANCE CRITERIA** *Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*
1. Plan work	1.1 Potential workplace ***hazards*** are identified 1.2 ***Hazard control measures*** are identified consistent with ***appropriate standards*** to ensure the safety of personnel and equipment 1.3 Appropriate ***forklift*** truck is selected according to the load and workplace conditions 1.4 Working area is inspected to determine appropriate path of movement for loads and forklift truck 1.5 ***Communication methods*** are identified according to ***procedures***
2. Conduct routine checks	2.1 Forklift is visually checked for any damage or defects 2.2 All ***signage and labels*** are visible and legible according to the ***appropriate standard*** 2.3 All controls are located and identified 2.4 ***Pre-start operational checks*** are carried out according to ***procedures*** 2.5 ***Forklift*** is started according to ***procedures*** and checked for any abnormal noise 2.6 ***Post-start operational checks*** are carried out according to ***procedures*** 2.7 All forklift functions and safety devices are tested to their maximum according to ***procedures*** 2.8 Defects and damage are reported and recorded according to ***procedures***, and appropriate action is taken
3. Shift load	3.1 The weight of load is assessed to ensure compliance with ***forklift*** truck data plate specifications 3.2 Appropriate ***hazard prevention/control measures*** are implemented and communicated with personnel in the work area 3.3 ***Forklift*** is operated at a safe speed and according to ***procedures*** 3.4 Loads are moved and placed to ensure stability of material and avoidance of hazards

	3.5 Load movement is monitored constantly ensuring safety to personnel and load, and structural stability 3.6 ***Unplanned and/or unsafe situations*** are responded to in line with ***procedures***
4. Shut down and secure forklift truck	4.1 ***Forklift*** truck is parked to avoid hazards 4.2 Forklift is ***shut down*** according to ***procedures*** 4.3 Routine post-operational forklift checks are carried out according to ***procedures*** 4.4 Forklift is secured to prevent unauthorised access/use 4.5 All defects and damage are reported and recorded according to ***procedures***, and appropriate action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This describes the essential skills and knowledge and their level required for this unit.
Required skills:
• Accurately interpret information relating to conducting forklift truck operations (e.g. procedures) • Safely conduct forklift truck operations including all functions to the maximum height and load capacity • Identify hazards associated with the operation of the forklift truck, assess risks and put into place effective hazard prevention/control measures for those hazards identified • Use communication skills at a level sufficient to communicate with other site personnel (e.g. receive and interpret work instructions, safety information, emergency procedures) • Drive forklift with load in forward and reverse, maintaining visibility • Verify problems and equipment faults and demonstrate appropriate response procedures
Required knowledge:
• Methodology of determining the weight of a load • Commonwealth, state or territory OH&S legislation, standards relevant to the safe operation for the forklift trucks • Understanding of forklift characteristics and capabilities (including use of load data plates) • Understanding of the hierarchy of hazard identification and control • Organisational and workplace standards, requirements, policies and procedures for

REQUIRED SKILLS AND KNOWLEDGE
conducting operations for the crane class • Procedures for the recording, reporting and maintenance of workplace records and information • Forklift truck operations and safe operating techniques • Typical routine problems encountered in the operation of the crane and equipment and adjustments required for correction

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the Training Package.	
Overview of assessment	• Successful assessment of this unit meets the competency requirement of the National Standard for Licensing Persons Performing High Risk Work. • State/territory OH&S regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OH&S matters.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	• Compliance with OH&S licensing legislation. • Communicate and work safely with others in the work area. • Identify hazards associated with the operation of the forklift truck and put in place effective hazard controls for those hazards identified. • Conduct pre-start-up, operational, moving loads and shut down and secure checks of the forklift truck according to procedures. • Operate the forklift truck and move loads safely, including driving and manoeuvring, picking up and placing of loads at various stack heights. • Drive forklift truck with load in forward and reverse, maintaining visibility.
Context of and specific resources for assessment	• Assessment of the safe application of knowledge and skills to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument.

EVIDENCE GUIDE	

	• Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting.
	• Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints.
	• Applicants must have access to:
	  • Personal Protective Equipment (PPE) for the purpose of the Performance Assessment
	  • associated equipment appropriate to forklift truck operations
	  • suitable loads as described by the endorsed Assessment Instrument
	  • manufacturers specifications
	  • appropriate forklift truck in a safe condition.

Method of assessment	• Assessment must be conducted using the endorsed Assessment Instrument. These Instruments provide instruction on their application. • The use of '**simulators**' in the assessment of this unit of competency is **not acceptable**. • Assessment may be in conjunction with the assessment of other units of competency. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
Guidance information for assessment	• Further information about endorsed Assessment Instruments may be obtained from state/territory OH&S regulators.

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.

RANGE STATEMENT	
Hazards	May include but not limited to: • ground conditions (e.g. condition of pavement, slopes) • overhead hazards (e.g. powerlines, service pipes) • insufficient lighting • traffic (e.g. pedestrians, vehicles, other plant) • weather (e.g. wind, lightning, rain) • forklift instability (e.g. overloading, poor load placement, irregular loads) • other hazards (e.g. dangerous materials)
Hazard control measures	Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk: 1 elimination 2 substitution 3 isolation 4 engineering control measures 5 using safe work practices 6 personal protective equipment
Appropriate standards	May include but not limited to: • legislation • Australian standards • manufacturer's specifications • industry standards (where applicable)
Forklift truck	May include but not be limited to: • counterbalanced • reach trucks • rough terrain • internal combustion petrol, diesel, gas • electric
Communications methods	May include but not limited to: • verbal and non-verbal language • written instructions • signage

RANGE STATEMENT	
	• hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Procedures	May include but not limited to: • manufacturer's guidelines (instructions, specifications or checklists) • industry operating procedures • workplace procedures (work instructions, operating procedures, checklists)
Pre-start operational checks	May include but not limited to: • safety devices fitted where appropriate • forklift data plate fitted and interpreted • logbook, handbook or operating manuals available • external visual check including, evidence of damage, leaks, visual evidence of structural weaknesses (including paint separation or stressed welds) is carried out • forklift attachment is checked for security • approved modifications and/or attachments fitted to manufacturer's specifications (e.g. as per forklift or attachment data plate) are identified • checks for adaptations or modifications outside manufacturer's specifications (e.g. not listed on the forklift or attachment data plate) are carried out • maintenance logbook/records checked
Post-start operational checks	May include checks of the forklift truck and equipment after start-up to ensure: • hazard warning systems (for example lights and horns), are functional • attachment movements and control functions are smooth and comply with operating requirements • steering, transmission and brake functions comply with operating requirements
Hazard prevention/control measures	May include but not limited to: • barricades and traffic control • safety tags on electrical switches/isolators

RANGE STATEMENT	
	• insulated powerlines • safety observer used inside exclusion zone • disconnected power • pedestrian control (barricades, signs, etc.) • excavation safeguards • movement of obstructions • personal protective equipment • adequate illumination
Unplanned and/or unsafe situations	May include but not limited: • failure/loss of control (e.g. brakes and steering) • failure of equipment (e.g. hydraulic system) • environmental condition
Shut down	May include, but is not limited to: • parking in a suitable location away from dangerous areas • fork arms are correctly positioned (tips down, tilted forward, lowered to ground) • appropriate transmission/gear is selected for parking (relevant to transmission type) • hand/parking brake is applied • engine power is turned off • ignition key is removed (if applicable) • LPG gas cylinder valve is shut off (where fitted) • securing equipment against unauthorised operation • securing the site • ensuring access ways are clear • identifying and segregating defective equipment and reporting to authorised personnel • batteries are connected to the charger (if applicable)

Unit Sector(s)

Not Applicable

TLILIC2016A Licence to drive heavy rigid vehicle

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to obtain a licence to drive a heavy rigid vehicle. It includes systematic and efficient control of all vehicle functions, monitoring of traffic and road conditions, management of vehicle condition and performance and effective management of hazardous situations. Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant Heavy Vehicle Driver Licensing Authority.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority pertaining to heavy rigid vehicles.

Driving is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain the safety and operation of a heavy rigid vehicle across a variety of driving contexts.

Licensing/Legislative Requirements

The primary legislative requirements applicable to this unit of competency are State/Territory legislation in relation to road use and driver licensing.

This unit addresses the underlying knowledge and skills necessary for the granting of a Heavy Rigid Driver Licence. Drivers may require additional training to drive particular vehicles of the class or in particular contexts.

Obtaining this competency is a necessary pre-requisite for obtaining a Heavy Rigid Driver Licence. However, it is only one of several criteria for obtaining the licence. Prospective licence applicants should check with the State/Territory driver licensing authority for other criteria (for example: licence tenure and medical fitness) to confirm compliance with other eligibility requirements before undertaking training and/or assessment.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Drive the heavy rigid vehicle	1.1 The heavy rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturers instructions
	1.2 Engine power is managed to ensure efficiency and performance and to minimise engine and gear damage
	1.3 Braking system of heavy rigid vehicle is managed and operated to ensure effective control of the vehicle under all conditions
	1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
	1.5 The heavy rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning.
	1.6 The heavy rigid vehicle is parked, shut down and secured in accordance with traffic regulations, safe and secure
	1.7 Load is safely and effectively restrained
	1.8 Where required, overwidth and overweight permit applications are undertaken in accordance with relevant regulatory requirements
	1.9 Appropriate procedures are followed in the event of a driving emergency
2 Monitor traffic and road conditions	2.1 An appropriate route of travel is observed taking into account prescribed routes.
	2.2 Traffic and road conditions are constantly monitored and acted upon to enable safe operation and ensure no injury to people or damage to property, equipment loads and facilities
	2.3 Interaction with other road users is conducted courteously and in accordance with road rules to ensure safe and efficient traffic flow
3 Monitor and maintain vehicle performance	3.1 Vehicle performance is maintained through pre-operational inspections and checks of the vehicle
	3.2 Appropriate signage, lights and the like are checked for operational effectiveness and for conformity to prescribed traffic regulations
	3.3 Performance and efficiency of vehicle operation is monitored during use

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Heavy rigid vehicle controls, instruments and indicators and their use
- Heavy rigid vehicle handling procedures
- Procedures to be followed in the event of a driving emergency
- Engine power management and safe driving strategies
- Efficient driving techniques
- Pre-operational checks carried out on heavy rigid vehicle and related action
- Differences between transmission types
- Principles of operation of air brakes and procedures for their use
- Map reading and navigation of the vehicle and related action (including prescribed routes)
- Driving hazards and related defensive driving techniques
- Principles of stress management when driving a vehicle
- Factors which may cause traffic delays and diversions and related action that can be taken by a driver
- Causes and effects of fatigue on drivers
- Fatigue management strategies and on-road techniques

Required skills:

- Communicate effectively with others when driving a heavy rigid vehicle
- Read and interpret instructions, procedures, information and signs relevant to when the driving of a heavy rigid vehicle
- Complete documentation related to the driving of a heavy rigid vehicle
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when driving a heavy rigid vehicle
- Monitor and anticipate traffic hazards and take appropriate action
- Apply fatigue management knowledge and techniques
- Monitor performance of the vehicle and its equipment and take appropriate action where required
- Carry out pre-operational checks

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
  - the underpinning knowledge and skills
  - relevant legislation
  - other relevant aspects of the range statement
- Assessment of competency for this unit must be subject to the successful completion of the Mandatory Assessment Instrument as approved by the Licensing Authority

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
  - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
  - access to an appropriate range of relevant operational situations on road or in the workplace
- In both real and simulated environments, access is required to:
  - relevant and appropriate materials and equipment, and
  - applicable documentation including regulations, codes of practice and operation manuals
- The mandatory assessment tool provided by the Licensing Authority must be used to conduct the final assessment.
- The Licensing Authority may prescribe approved routes which must be used for the conduct of the final assessment
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation

EVIDENCE GUIDE

- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
  - through activities in an appropriately simulated environment at the registered training organisation, and/or
  - in an appropriate range of situations on road or in the workplace
- The assessor must use the mandatory assessment tool provided by the Licensing Authority to conduct the assessment for this unit in accordance with Licensing Authority requirements
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

EXCEPTION

Where the candidate is already the holder of a valid Australian driver licence of the Heavy Rigid class, the Licensing Authority has already deemed the candidate to be competent against this standard for the purposes of issuing a driver licence. In this case the requirement to conduct the assessment using the Mandatory Assessment Instrument provided by the Licensing Authority is waived and the assessor may use any suitable process and materials for conducting the assessment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Type of vehicle includes:	• all heavy rigid vehicles, for example any rigid vehicle with 3 or more axles, including trucks or buses, greater than 8 tonnes GVM
Driving may be carried out in typical road transport situations, including:	• operations conducted at day or night • typical weather conditions • on the open road • on a private road • while at a depot, base or warehouse • while at a client's workplace or work site
Driving must be carried out in typical road transport situations,	• negotiating hills • negotiating a range of more complex traffic infrastructure (for example; roundabouts, traffic lights, stalemate

RANGE STATEMENT

including:	intersections, level crossings of railways)
Vehicle handling procedures may include:	• starting a vehicle • steering and manoeuvring a vehicle • accelerating and braking • positioning and stopping a vehicle • reversing a vehicle • operating vehicle controls, instruments and indicators • using air brakes • using defensive driving techniques • managing engine performance
Pre-operational checks may include:	• visual check of vehicle • checking and topping up of fluid levels • checks of tyre pressures • checks of operation of vehicle lights and indicators • checks of brakes
Driving hazards may include (examples only):	• wet and iced roads • oil on road • animals and objects on road • fire in vehicle • leaking fuel • faulty brakes • parked vehicles on the road • faulty steering mechanism on vehicle • pedestrians crossing the road • flooded sections of road • windy sections of road • foggy conditions
Factors that can cause traffic delays and diversions may include:	• traffic accidents • flooded sections of road • road damage • bridge/tunnel damage • road works • building construction • emergency situations such as bushfires, building fires, etc. • road closures for special events such as marches, parades, sporting events, etc • holiday traffic • road closures for utility works such as electricity, water, sewerage, telecommunications, gas, etc.
Documentation/records may	• state/territory heavy rigid vehicle driving licence and

RANGE STATEMENT

include:	permit requirements • vehicle log book or record book (where required) • relevant standards and certification requirements
Applicable procedures and codes may include:	• relevant state/territory roads and traffic authority driving regulations and licence/permit requirements pertaining to heavy rigid vehicles • relevant state/territory road rules • relevant state/territory permit regulations and requirements • relevant state/territory OH&S legislation • relevant state/territory fatigue management regulations • relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field LIC - Licensing Units

TLILIC3006A Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor	This unit specifies the outcomes required to operate a mobile crane of greater than 3 tonnes capacity that incorporates a boom or jib which includes articulated type mobile cranes and locomotive cranes, but does not include vehicle tow trucks, for licensing purposes.

Application of the Unit

Application of the Unit	This unit requires the operator to plan the work, conduct routine checks, set up crane, transfer loads, mobile loads, and shut down and secure the crane. This unit is based on the requirements of the National Standard for Licensing Persons Performing High Risk Work. This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT *Elements describe the essential outcomes of a unit of competency.*	**PERFORMANCE CRITERIA** *Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*
1. Plan work	1.1 1.1 Potential workplace ***hazards*** are identified 1.2 ***Hazard control measures*** are identified consistent with ***appropriate standards*** to ensure the safety of personnel and equipment 1.3 The weight of the load is identified and estimated in consultation with ***associated personnel*** 1.4 ***Crane*** is ***appropriate*** to the load/s and workplace conditions 1.5 The appropriate path for the movement of loads in the work area is inspected and determined 1.6 Appropriate ***communication methods*** are identified with ***associated personnel***
2. Conduct routine checks	2.1 Crane is visually checked for any damage or defects 2.2 ***Crane*** is accessed in a safe manner 2.3 All ***signage and labels*** are visible and legible according to the ***appropriate standard*** 2.4 Routine pre-operational crane checks are carried out according to ***procedures*** 2.5 All controls are located and identified 2.6 Crane ***service logbook*** is checked for compliance 2.7 Crane is started according to ***procedures*** and checked for any abnormal noises 2.8 All ***crane safety devices*** are tested according to ***procedures*** 2.9 Pos-start operational checks are carried out according to ***procedures*** 2.10 All ***communication equipment*** is checked for serviceability 2.11 All damage and defects are reported and recorded according to ***procedures***, and appropriate action is taken
3. Set up crane	3.1 ***Ground suitability*** is checked 3.2 ***Crane*** is driven to the work area according to ***procedures***

	3.3 ***Crane*** is positioned for work application and ***stability*** according to ***procedures*** 3.4 Appropriate ***crane configuration*** for work task is determined according to ***procedures*** (where applicable) 3.5 Boom/jib and counterweight configuration data is input into the crane computer (where applicable) 3.6 Appropriate ***hazard prevention/control measures*** are applied to the work area according to ***procedures*** 3.7 All ***communications equipment*** is tested for functionality
4. Transfer load	4.1 Lifts are determined within the capacity of the crane 4.2 Boom/jib and hoist block is positioned over load following directions from ***associated personnel*** 4.3 ***Test lift*** is carried out according to ***procedures*** 4.4 Loads are transferred using all ***relevant crane movements*** according to ***procedures*** and the ***appropriate standard*** 4.5 All required ***communication signals*** are correctly interpreted according to ***procedures*** and the ***appropriate standard*** 4.6 ***Crane*** is operated according to ***procedures*** 4.7 Load movement is monitored constantly ensuring safety to personnel and load, and crane stability 4.8 ***Unplanned and/or unsafe*** situations are responded to in line with ***procedures***
5. Mobile load	5.1 Suitability of ***planned route*** is checked for the crane according to ***procedures*** 5.2 ***Crane*** is configured to mobile load according to procedures 5.3 Load is moved using ***best mobile practice*** according to the appropriate standard
6 Shut down and secure crane	6.1 ***Crane*** boom/jib and equipment is stowed and secured, where appropriate, according to ***procedures*** and the ***appropriate standard*** 6.2 Relevant motion locks and brakes are applied (where applicable) 6.3 Outriggers/stabilisers are stowed and secured according to ***procedures*** (where applicable) 6.4 Crane is ***shut down*** according to procedures 6.5 Routine post-operational crane checks are carried

	out according to ***procedures*** 6.6 Plates or packing are stowed and secured (where applicable) 6.7 All damage and defects are recorded and reported according to ***procedures***, and appropriate action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This describes the essential skills and knowledge and their level, required for this unit.
Required skills:
• Accurately record and maintain information relating to crane operations • Use communication techniques in the workplace including whistles, hand signals and use of two-way radios • Use communication skills at a level sufficient to communicate with other site personnel • Assessment of ground conditions to confirm that the site is suitable (e.g. firm, level and safe) to operate crane • Operate crane including all functions to their maximum extension in the lifting and moving of loads to the safe working rated capacity in conjunction with other associated personnel • Mobile loads using best mobile practice • Apply risk assessment and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the crane (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, crane tipping and demolition sites) • Use and interpret crane manufacturer's specifications and data, including load charts to enable the crane to be configured for the load • Verify problems and equipment faults and demonstrate appropriate response procedures
Required knowledge:
• Appropriate mathematical procedures for estimation and measurement of loads • Commonwealth, state or territory OH&S legislation, standards and codes of practice relevant to the full range of processes for the crane class • Ability to read and comprehend manufacturer's instructions, procedures and safety signs • Understanding of crane characteristics and capabilities (including use of load charts) to allow the configuration of the crane to suit the range of loads

REQUIRED SKILLS AND KNOWLEDGE
• Understanding of the hierarchy of hazard identification and control • Organisational and workplace standards, requirements, policies and procedures for conducting operations for the crane class • Procedures for the recording, reporting and maintenance of workplace records and information • Typical routine problems encountered in the operation of the crane and equipment and adjustments required for correction

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the Training Package.	
Overview of assessment	Successful assessment of this unit meets the competency requirement of the National Standard for Licensing Persons Performing High Risk Work. State/territory OH&S regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OH&S matters.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	• Compliance with OH&S licensing legislation. • Communicate and work safely with others in the work area. • Risk assessment and management procedures (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, crane tipping, other vehicles and personnel). • Operation of a non-slewing mobile crane including all functions to their maximum extension in the lifting and moving of loads to the safe working rated capacity of non-slewing mobile cranes (over 3t capacity) in conjunction with other associated personnel. • Appropriate mathematical procedures for estimation of loads.
Context of and specific	• Assessment of the safe and effective application of knowledge and skill to workplace tasks

EVIDENCE GUIDE	

resources for assessment	(performance) must be undertaken using the endorsed Assessment Instrument.
	• Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting.
	• Assessors must ensure that the assessment in the workplace is organised to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace.
	• Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints.
	• Assessment is to comply with relevant appropriate standard requirements.
	• Applicants must have access to:
	  • Personal Protective Equipment (PPE) for the purpose of the Performance Assessment
	  • appropriate non-slewing crane (greater than 3 tonnes) and associated equipment in safe condition
	  • suitable loads as specified by endorsed assessment instrument
	  • communication equipment (e.g. two-way radios, whistles, etc.)
	  • other associated personnel to sling and direct the loads.

Method of assessment	• Assessment must be conducted using the endorsed Assessment Instruments. These Instruments provide advice on their application. • The use of '**simulators**' in the assessment of this unit of competency is **not acceptable**. • Assessment may be in conjunction with the assessment of other units of competency. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstances, but is able to be transferred to other circumstances.
Guidance information for	• Further information about endorsed Assessment Instruments may be obtained from state/territory

EVIDENCE GUIDE	
assessment	OH&S regulators.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.	
Hazards	May include but not limited to: • ground stability (e.g. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. powerlines, service pipes) • insufficient lighting • traffic (e.g. pedestrians, vehicles, other plant) • environmental conditions (e.g. wind, lightning, storms, etc.) • other specific hazards (e.g. dangerous materials)
Hazard control measures	Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk: 1 elimination 2 substitution 3 isolation 4 engineering control measures 5 using safe work practices 6 personal protective equipment
Appropriate standards	May include but not limited to: • codes of practice • legislation • Australian standards • manufacturer's specifications • industry standards (where applicable)

RANGE STATEMENT	
Associated personnel	May include but not limited to: • doggers • riggers
Appropriate	May include but not limited to: • crane capabilities • environmental conditions (e.g. wind, lightning, storms, etc.)
Crane	May include: • a crane (greater than 3 tonnes capacity) which meets the requirements of AS1418 • articulated type mobile cranes • locomotive cranes Does not include vehicle tow truck operations
Communication method	May include but not limited to: • verbal and non-verbal language • written instructions • signage • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Signage and labels	May include but not limited to: • crane data plates/labels • load charts • crane decals • control labels
Procedures	May include but not limited to: • manufacturer's guidelines (instructions, specifications, operators manual or checklists) • industry operating procedures • workplace procedures (work instructions, operating procedures, checklists)
Controls	May include but not limited to: • luffing levers • hoisting and lowering levers • slewing levers including brake

RANGE STATEMENT	
	• boom extension levers (where fitted)
Service logbook	May include but not limited to: • any logbook • service book • history record system where the service and maintenance history is kept
Crane safety devices	May include but not limited to: • horns/sirens • audible and visual reversing devices • operator restraint devices • lights
Communication equipment	May include but not limited to: • fixed channel two-way radios • whistles • bells • buzzers NB: where radio communication equipment is used the transmitting frequencies of the equipment must be selected to prevent interference to or from other radio equipment being used in the vicinity of the crane
Ground suitability	May include but not limited to: • rough uneven ground • backfilled ground • soft soils • hard compacted soil • rock • bitumen • concrete
Stability	May include but not limited to: • deploying outriggers • establishing correct size plates or packing • correctly positioning plates or packing
Crane configuration	May include but not be limited to: • boom/jib • fly-jib • counterweights

RANGE STATEMENT	
Hazard prevention/control measures	May include but not limited to: • safety tags on electrical switches/isolators • insulated powerlines • safety observer used inside exclusion zone • disconnected power • traffic barricades and control/s • pedestrian controls • trench covers • movement of obstructions • personal protective equipment • adequate illumination
Test lift	The load is lifted just clear of the lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure that: • near capacity loads do not overload the crane • loads of unusual shape or weight distribution are correctly slung • load measuring equipment can be used to verify the calculated weight of the load • all crane equipment is functioning properly • adjustments to the slinging can be made in a safe manner
Relevant crane movements	May include but not limited to: • telescope in and out • boom/jib up and down • articulating (as applicable) • raise and lower hoist (as applicable)
Communication signals	May include but not limited to: • stop - hand • stop - whistle • hoist up - hand • hoist up - whistle • hoist down - hand • hoist down - whistle • luff boom down - hand • luff boom down - whistle • luff boom up - hand • luff boom up - whistle

RANGE STATEMENT	
	• telescope out - hand • telescope out - whistle • telescope in - hand • telescope in - whistle • slew/articulate right - hand • slew/articulate right - whistle • slew/articulate left - hand • slew/articulate left - whistle
Unplanned and/or unsafe situations	May include but not limited to: • failure/loss of control (e.g. brakes and steering) • failure of equipment (e.g. hydraulic system) • environmental conditions (e.g. wind, lightning, storms, etc.)
Planned route	May include but not limited to: • unusual or difficult terrains • obstacles or obstruction
Best mobile practice	May include but not limited to: • minimum speed • gentle acceleration and braking (to minimise load swing) • minimum boom/jib length • carrying the load near to the ground surface • use of handheld taglines
Shut down	May include but not limited to: • retracting boom/jib/fly (where applicable) • retracting hoist rope and hook block • idling engine to stabilise temperature • retracting outriggers/stabilisers (where applicable) • turning off engine

Unit Sector(s)

Not Applicable

TLILIC3008A Licence to operate a slewing mobile crane (up to 20 tonnes)

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor	This unit specifies the outcomes required to operate a slewing mobile crane (up to 20 tonnes) for licensing purposes. It encompasses the requirement for non-slewing mobile crane licence and the vehicle loading crane licence.

Application of the Unit

Application of the Unit	This unit requires the operator to plan the work, conduct routine checks, set up crane, transfer loads, mobile loads and shut down and secure the crane. This unit is based on the requirements of the National Standard for Licensing Persons Performing High Risk Work. This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency	*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan work	1.1 Potential workplace ***hazards*** are identified 1.2 ***Hazard prevention/control measures*** are identified consistent with ***appropriate standards*** to ensure the safety of personnel and equipment 1.3 The weight of the load is identified and estimated in consultation with ***associated personnel*** 1.4 ***Crane*** is ***appropriate*** to the load/s and workplace conditions 1.5 Appropriate path for the movement of loads in the work area is inspected and determined 1.6 Appropriate ***communication methods*** are identified with ***associated personnel***
2. Conduct routine checks	2.1 ***Crane*** is visually checked for any damage or defects 2.2 ***Crane*** is accessed in a safe manner 2.3 All ***signage and labels*** are visible and legible according to the ***appropriate standard*** 2.4 Routine pre-operational crane checks are carried out according to ***procedures*** 2.5 All ***controls*** are located and identified 2.6 Crane ***service logbook*** is checked for compliance 2.7 ***Crane*** is started according to ***procedures*** and checked for any abnormal noise 2.8 All ***crane safety devices*** are tested according to ***procedures*** 2.9 Post-start operational checks are carried out according to ***procedures*** 2.10 All ***communication equipment*** is checked for serviceability 2.11 All damage and defects are reported and recorded according to ***procedures***, and appropriate action is taken
3. Set up crane	3.1 ***Ground suitability*** is checked 3.2 ***Crane*** is driven to the work area according to ***procedures*** 3.3 ***Crane*** is positioned for work application and ***stability*** according to ***procedures*** 3.4 Appropriate ***crane configuration*** for work task is determined according to ***procedures*** (where applicable) 3.5 Boom/jib and counterweight configuration data is input

ELEMENT	PERFORMANCE CRITERIA
	into the crane computer (as required) 3.6 Appropriate ***hazard prevention/control measures*** are applied to the work area according to ***procedures*** 3.7 All ***communications equipment*** is tested for functionality
4. Transfer load	4.1 Lifts are determined within the capacity of the crane 4.2 Boom/jib and hoist block is positioned over load following directions from ***associated personnel*** 4.3 ***Test lift*** is carried out according to ***procedures*** 4.4 Loads are transferred using all ***relevant crane movements*** according to ***procedures*** and the ***appropriate standard*** 4.5 All required ***communication signals*** are correctly interpreted according to ***procedures*** and the ***appropriate standard*** 4.6 ***Crane*** is operated according to ***procedures*** 4.7 Load movement is monitored constantly ensuring safety to personnel and load, and crane stability 4.8 ***Unplanned and/or unsafe*** situations are responded to in line with ***procedures***
5. Mobile load	5.1 Suitability of ***planned route*** is checked for the crane according to ***procedures*** 5.2 ***Crane*** is configured to mobile load according to ***procedures*** 5.3 Load is moved using ***best mobile practice*** according to the ***appropriate standard***
6. Shut down and secure crane	6.1 ***Crane*** boom/jib and equipment are stowed and secured where appropriate according to ***procedures*** and the ***appropriate standard*** 6.2 Relevant motion locks and brakes are applied (where applicable) 6.3 Outriggers/stabilisers are stowed and secured according to ***procedures*** 6.4 Crane is ***shut down*** according to ***procedures*** 6.5 Plates or packing are stowed and secured 6.6 Routine post-operational crane checks are carried out according to ***procedures*** 6.7 All damage and defects are reported and recorded according to ***procedures***, and appropriate action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This describes the essential skills and knowledge and their level required for this unit.
Required skills:
• Accurately record and maintain information relating to crane operations • Use communication techniques in the workplace including whistles, hand signals and use of two-way radios • Use interpersonal communication skills at a level sufficient to communicate with other site personnel • Load data into crane computer (where fitted) and check operation to accurately reflect the crane configuration • Operate a slewing mobile crane (up to 20t capacity) for the lifting and moving of loads to the safe working rated capacity in conjunction with other associated personnel • Apply risk assessment and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the crane (particular awareness of the risks associated with overhead powerlines/electrical cables, wind, erection, pack up and crane stability) • Use and interpret crane manufacturer's specifications and data, including load charts, to enable the crane to be configured for the load • Verify problems and equipment faults and demonstrate appropriate response procedures
Required knowledge:
• Appropriate mathematical procedures for estimation and measurement of loads • Commonwealth, state or territory OH&S legislation, standards and codes of practice relevant to the full range of processes for the crane class • Level of literacy to be able to read and comprehend manufacturer's instructions, procedures and safety signs • Mobile slewing crane characteristics and capabilities to allow the configuration of the crane to suit the range of loads • Mobile slewing crane operating techniques • Understanding of the hierarchy of hazard identification and control • Organisational and workplace standards, requirements, policies and procedures for conducting operations for the crane class • Procedures for the recording, reporting and maintenance of workplace records and information • Rated capacity and working load limits (including use of crane load charts) • Typical routine problems encountered in the process and with equipment and

REQUIRED SKILLS AND KNOWLEDGE
adjustments required for correction

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the Training Package.	
Overview of assessment	• Successful assessment of this unit meets the competency requirement of the National Standard for Licensing Persons Performing High Risk Work. • State/territory OH&S regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OH&S matters.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	• Compliance with OH&S licensing legislation. • Communicate and work safely with others in the work area. • Risk assessment and management procedures (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, crane tipping and demolition sites). • Complete the pre-operational check, positioning, stabilising, set up, operation, post-operational checks of a mobile crane including all functions to their maximum extension in the lifting and moving of loads to the safe working rated capacity of the mobile crane up to 20 tonne capacity in conjunction with other associated personnel. • Appropriate mathematical procedures for estimation of loads.
Context of and specific resources for assessment	• Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument. • Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting. • Assessors must ensure that the assessment in the

EVIDENCE GUIDE	

	workplace is organised to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace.
	• Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints.
	• Assessment is to comply with relevant appropriate standard requirements.
	• Applicants must have access to:
	  • Personal Protective Equipment (PPE) for the purpose of the Performance Assessment
	  • appropriate slewing mobile crane (up to 20 tonne) and associated equipment in safe condition
	  • suitable loads as specified by the endorsed Assessment Instrument
	  • communication equipment (e.g. two-way radios, whistles, etc.)
	  • other associated personnel to sling and direct the loads

Method of assessment	• Assessment must be conducted using the endorsed Assessment Instruments. These Instruments provide advice on their application. • Assessment may be in conjunction with the assessment of other units of competency. • The use of '**simulators**' in the assessment of this unit of competency is **not acceptable**. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstances, but is able to be transferred to other circumstances.
Guidance information for assessment	Further information about endorsed Assessment Instruments may be obtained from state/territory OH&S regulators.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.	
Hazards	May include but not limited to: • ground stability (e.g. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. powerlines, service pipes) • traffic (e.g. pedestrians, vehicles, other plant) • insufficient lighting • environmental conditions (e.g. wind, lightning, storms, etc.) • other specific hazards (e.g. dangerous materials)
Hazard control measures	Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk: 1 elimination 2 substitution 3 isolation 4 engineering control measures 5 using safe work practices 6 personal protective equipment
Appropriate standard	May include but not limited to: • codes of practice (mobile crane) • legislation • Australian standard • manufacturer's specifications • industry standards (where applicable)
Associated personnel	May include but not limited to: • riggers • doggers
Appropriate	May include but not limited to: • crane capabilities

RANGE STATEMENT	
	• environmental conditions (e.g. wind, lightning, storms, etc.)
Crane	May include a boom or jib, which is capable of being slewed (up to 20 tonnes capacity) The slewing mobile crane up to 20 tonnes classification encompasses the requirements for the non-slewing mobile crane classification and the vehicle loading crane classification NB: This excludes front-end loader, backhoe, excavator or like equipment when configured for crane operation
Communication method	May include but not limited to: • verbal and non-verbal language • written instructions • signage • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Signage and labels	May include but not limited to: • crane data plates/labels • load charts • crane decals • control labels
Procedures	May include but not limited to: • manufacturer's guidelines (instructions, specifications or checklists) • industry operating procedures • workplace procedures (work instructions, operating procedures, checklists)
Controls	May include but not limited to: • luffing levers • hoisting and lowering levers • slewing levers including brake • boom extension levers (where fitted)
Service logbook	May include but not limited to: • any logbook

RANGE STATEMENT	
	• service book • history record system where the service and maintenance history is kept
Crane safety devices	May include but not limited to: • horns/sirens • audible and visual reversing devices • operator restraint devices • lights
Communication equipment	May include but not limited to: • two-way radios • whistles • bells • buzzers NB: where radio communication equipment is used the transmitting frequencies of the equipment must be selected to prevent interference to or from other radio equipment being used in the vicinity of the crane
Ground suitability	May include but not limited to: • rough uneven ground • backfilled ground • soft soils • hard compacted soil • rock • bitumen • concrete
Stability	May include but not limited to: • deploying outriggers • establishing correct size plates or packing • correctly positioning plates or packing
Crane configuration	May include but not be limited to: • boom/jib • fly-jib • counterweights
Hazard prevention/control measures	May include but not limited to: • safety tags on electrical switches/isolators • insulated powerlines

RANGE STATEMENT	
	• safety observer used inside exclusion zone • disconnected power • traffic barricades and control • pedestrian barricades • trench covers • movement of obstructions • personal protective equipment • adequate illumination
Test lift	The load is lifted just clear of the lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure that: • near capacity loads do not overload the crane • loads of unusual shape or weight distribution are correctly slung • load measuring equipment can be used to verify the calculated weight of the load • all crane equipment is functioning properly • adjustments to the slinging can be made in a safe manner
Relevant crane movements	May include but not limited to: • telescope in and out • boom/jib up and down • slew boom/jib • operation of outriggers/stabilisers • raise and lower hoist • travel
Communication signals	May include but not limited to: • stop - hand • stop - whistle • hoist up - hand • hoist up - whistle • hoist down - hand • hoist down - whistle • luff boom down - hand • luff boom down - whistle • luff boom up - hand • luff boom up - whistle • telescope out - hand • telescope out - whistle

RANGE STATEMENT	
	• telescope in - hand • telescope in - whistle • slew left - hand • slew left - whistle • slew right - hand • slew right - whistle • travel - hand
Unplanned and/or unsafe situations	May include but not limited to: • failure/loss of control (e.g. brakes and steering) • failure of equipment (e.g. hydraulic system) • environmental conditions (e.g. wind, lightning, storms, etc.)
Planned route	May include but not limited to: • unusual or difficult terrains • obstacles or obstruction
Best mobile practice	May include but not limited to: • minimum speed • gentle acceleration and braking (to minimise load swing) • minimum boom/jib length • carrying the load near to the ground surface • boom/jib in line with the crane • boom/jib as low as possible • load faces uphill • use of handheld taglines
Shut Down	May include but not limited to: • retracting boom/jib • retracting hoist rope and hook block • positioning/securing boom/jib • retracting outriggers/stabilisers • idling engine to stabilise temperature • turning off engine (where applicable) • removing key from ignition (where applicable) • locking and securing cabin (where applicable)

Unit Sector(s)

Not Applicable

TLILIC3017A Licence to drive heavy combination vehicle

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to obtain a licence to drive a heavy combination vehicle. It includes systematic and efficient control of all vehicle functions, monitoring of traffic and road conditions, management of vehicle condition and performance, coupling and uncoupling of trailer, and effective management of hazardous situations. Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant Heavy Vehicle Driver Licensing Authority.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority pertaining to heavy combination vehicles.

Driving is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain the safety and operation of a heavy combination vehicle across a variety of driving contexts.

Licensing/Legislative Requirements

The primary legislative requirements applicable to this unit of competency are State/Territory legislation in relation to road use and driver licensing.

This unit addresses the underlying knowledge and skills necessary for the granting of a Heavy Combination Driver Licence. Drivers may require additional training to drive particular vehicles of the class or in particular contexts.

Obtaining this competency is a necessary pre-requisite for obtaining a Heavy Combination Driver Licence. However, it is only one of several criteria for obtaining the licence. Prospective licence applicants should check with the State/Territory driver licensing authority for other criteria (for example: licence tenure and medical fitness) to confirm compliance with other eligibility requirements before undertaking training and/or assessment.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Drive the heavy combination vehicle	1.1 The heavy combination vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturers instructions
	1.2 Engine power is managed to ensure efficiency and performance and to minimise engine and gear damage
	1.3 Braking system of heavy combination vehicle is managed and operated to ensure effective control of the vehicle under all conditions
	1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
	1.5 The heavy combination vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
	1.6 The heavy combination vehicle is parked, uncoupled, shut down and secured in accordance with traffic regulations, safe and secure
	1.7 Load is safely and effectively restrained
	1.8 Where required, overwidth and overweight permit applications are undertaken in accordance with relevant regulatory requirements
	1.9 Appropriate procedures are followed in the event of a driving emergency
2 Monitor traffic and road conditions	2.1 An appropriate route of travel is observed taking into account prescribed routes.
	2.2 Traffic and road conditions are constantly monitored and acted upon to enable safe operation and ensure no injury to people or damage to property, equipment loads and facilities
	2.3 Interaction with other road users is conducted courteously and in accordance with road rules to ensure safe and efficient traffic flow
3 Monitor and maintain vehicle performance	3.1 Vehicle performance is maintained through pre-operational inspections and checks of the vehicle
	3.2 Appropriate signage, lights and the like are checked for operational effectiveness and for conformity to prescribed traffic regulations
	3.3 Prime mover and trailer are correctly aligned and coupled
	3.4 Coupled vehicle is checked and tested to ensure it is correctly secured and to confirm that it is fully operational
	3.5 Performance and efficiency of vehicle operation is monitored during use

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Heavy combination vehicle controls, instruments and indicators and their use
- Heavy combination vehicle handling procedures
- Procedures to be followed in the event of a driving emergency
- Engine power management and safe driving strategies
- Efficient driving techniques
- Pre-operational checks carried out on heavy combination vehicle and related action
- Differences between transmission types
- Principles of operation of air brakes and procedures for their use
- Driving hazards and related defensive driving techniques
- Map reading and navigation of the vehicle and related action (including prescribed routes)
- Factors which may cause traffic delays and diversions and related action that can be taken by a driver
- Principles of stress management when driving a vehicle
- Causes and effects of fatigue on drivers
- Fatigue management strategies including on-road techniques

Required skills:

- Communicate effectively with others when driving a heavy combination vehicle
- Read and interpret instructions, procedures, information and signs relevant to the driving of a heavy combination vehicle
- Complete documentation related to the driving of a heavy combination vehicle
- Monitor and anticipate traffic hazards and take appropriate action
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Apply map reading and road navigation techniques to the operation of a heavy combination vehicle
- Monitor performance of vehicle, its trailers and its equipment and take appropriate action

Required skills:

where required

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
  - the underpinning knowledge and skills
  - relevant legislation
  - other relevant aspects of the range statement
- Assessment of competency for this unit must be subject to the successful completion of the Mandatory Assessment Instrument as approved by the Licensing Authority.

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
  - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
  - access to an appropriate range of relevant operational situations on road or in the workplace
- In both real and simulated environments, access is required to:
  - relevant and appropriate materials and equipment, and
  - applicable documentation including regulations, codes of practice and operation manuals
- The mandatory assessment tool provided by the Licensing Authority must be used to conduct the final assessment.
- The Licensing Authority may prescribe approved routes which must be used for the conduct of the final assessment.

EVIDENCE GUIDE

- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
  - through activities in an appropriately simulated environment at the registered training organisation, and/or
  - in an appropriate range of situations on road or in the workplace
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

EXCEPTION

Where the candidate is already the holder of a valid Australian driver licence of the Heavy Combination class, the Licensing Authority has already deemed the candidate to be competent against this standard for the purposes of issuing a driver licence. In this case the requirement to conduct the assessment using the Mandatory Assessment Instrument provided by the Licensing Authority is waived and the assessor may use any suitable process and materials for conducting the assessment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Type of vehicle includes:

- all heavy combination vehicles that may be driven on public and private roads and work sites

Driving may be carried out in typical road transport situations,

- operations conducted at day or night
- typical weather conditions

RANGE STATEMENT

including:	• on the open road • on a private road • while at a depot, base or warehouse • while at a client's workplace or work site
Driving must be carried out in typical road transport situations, including:	• negotiating hills • negotiating a range of more complex traffic infrastructure (for example; roundabouts, traffic lights, stalemate intersections, level crossings of railways)
Vehicle handling procedures may include:	• starting a vehicle • steering and manoeuvring a vehicle • accelerating and braking • positioning and stopping a vehicle • reversing a vehicle • operating vehicle controls, instruments and indicators • using air brakes • using defensive driving techniques • managing engine performance
Pre-operational checks may include:	• visual check of vehicle • checking and topping up of fluid levels • checks of tyre pressures • checks of operation of vehicle lights and indicators • checks of brakes • checks of coupling equipment
Driving hazards may include (examples only):	• wet and iced roads • oil on road • animals and objects on road • fire in vehicle • leaking fuel • faulty brakes • parked vehicles on the road • faulty steering mechanism on vehicle • pedestrians crossing the road • flooded sections of road • windy sections of road • foggy conditions
Factors that can cause traffic delays and diversions may include (examples only):	• traffic accidents • flooded sections of road • road damage • bridge/tunnel damage • road works

RANGE STATEMENT

	• building construction • emergency situations such as bushfires, building fires, etc. • road closures for special events such as marches, parades, sporting events, etc. • holiday traffic • road closures for utility works such as electricity, water, sewerage, telecommunications, gas, etc.
Documentation/records may include:	• state/territory heavy combination vehicle driving licence/permit requirements • vehicle log book or record book (where required)
Applicable procedures and codes may include:	• relevant state/territory roads and traffic authority driving regulations and licence requirements pertaining to heavy combination vehicles • relevant state/territory road rules • relevant state/territory permit regulations and requirements • relevant state/territory OH&S legislation • relevant state/territory fatigue management regulations • relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field LIC - Licensing Units

TLILIC4009A Licence to operate a slewing mobile crane (up to 60 tonnes)

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor	This unit specifies the outcomes required to operate a slewing mobile crane (up to 60 tonnes) for licensing purposes. It encompasses the requirement for the up to 20 tonnes licence.

Application of the Unit

Application of the Unit	This unit requires the operator to plan the work, conduct routine checks, set up crane, transfer loads, mobile loads and shut down and secure the crane. This unit is based on the requirements of the National Standard for Licensing Persons Performing High Risk Work. This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency	*Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan work	1.1 Potential workplace ***hazards*** are identified 1.2 ***Hazard control measures*** are identified consistent with ***appropriate standards*** to ensure the safety of personnel and equipment 1.3 The weight of the load is identified and estimated in consultation with ***associated personnel*** 1.4 The ***crane*** is ***appropriate*** to the load/s and workplace conditions 1.5 Appropriate paths for the movement of loads in the work area are inspected and determined 1.6 Appropriate ***communication methods*** are identified with ***associated personnel***
2. Conduct routine checks	2.1 ***Crane*** is visually checked for any damage or defects 2.2 ***Crane*** is accessed in a safe manner 2.3 All ***signage and labels*** are visible and legible according to the ***appropriate standard*** 2.4 Routine pre-operational crane checks are carried out according to ***procedures*** 2.5 All ***controls*** are located and identified 2.6 Crane ***service logbook*** is checked for compliance 2.7 ***Crane*** is started according to ***procedures*** and checked for any abnormal noises 2.8 All ***crane safety devices*** are tested according to ***procedures*** 2.9 Post-start operational checks are carried out according to ***procedures*** 2.10 All ***communication equipment*** is checked for serviceability 2.11 All damage and defects are reported and recorded according to ***procedures***, and appropriate action is taken
3. Set up cane	3.1 ***Ground suitability*** is checked 3.2 ***Crane*** is driven to the work area according to ***procedures*** 3.3 ***Crane*** is positioned for work application and ***stability*** according to ***procedures*** 3.4 Appropriate ***crane configuration*** for work task is determined according to ***procedures*** (where applicable) 3.5 Boom/jib and counterweight configuration data is input into the crane computer (as required)

ELEMENT	PERFORMANCE CRITERIA
	3.6 Appropriate ***hazard prevention/control measures*** are applied to the work area according to ***procedures*** 3.7 All ***communications equipment*** is tested for functionality
4. Transfer load	4.1 Lifts are determined within the capacity of the crane 4.2 Boom/jib and hoist block is positioned over load following directions from ***associated personnel*** 4.3 ***Test lift*** is carried out according to ***procedures*** 4.4 Loads are transferred using all ***relevant crane movements*** according to ***procedures*** and the ***appropriate standard*** 4.5 All required ***communication signals*** are correctly interpreted according to ***procedures*** and the ***appropriate standard*** 4.6 ***Crane*** is operated according to ***procedures*** 4.7 Load movement is monitored constantly ensuring safety to personnel and load, and crane stability 4.8 ***Unplanned and/or unsafe*** situations are responded to in line with ***procedures***
5. Mobile load	5.1 Suitability of ***planned route*** is checked for the crane according to ***procedures*** 5.2 ***Crane*** is configured to mobile load according to ***procedures*** 5.3 Load is moved using ***best mobile practice*** according to the ***appropriate standard***
6. Shut down and secure crane	6.1 ***Crane*** boom/jib and equipment are stowed and secured where appropriate according to ***procedures*** and the ***appropriate standard*** 6.2 Relevant motion locks and brakes are applied (where applicable) 6.3 Outriggers/stabilisers are stowed and secured according to ***procedures*** 6.4 Crane is ***shut down*** according to ***procedures*** 6.5 Plates or packing are stowed and secured 6.6 Routine post-operational crane checks are carried out according to ***procedures*** 6.7 All damage and defects are reported and recorded according to ***procedures***, and appropriate action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This describes the essential skills and knowledge and their level required for this unit.

Required skills:

- Accurately record and maintain information relating to crane operations
- Use communication techniques in the workplace including whistles, hand signals and use of two-way radios
- Use interpersonal communication skills at a level sufficient to communicate with other site personnel
- Load data into crane computer (where fitted) and check operation to accurately reflect the crane configuration
- Operate a slewing mobile crane (21t up to 60t capacity) for the lifting and moving of loads to the safe working rated capacity in conjunction with other associated personnel
- Apply risk assessment and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the crane (particular awareness of the risks associated with overhead powerlines/electrical cables, wind, erection, pack up and crane stability)
- Use and interpret crane manufacturer's specifications and data, including load charts, to enable the crane to be configured for the load
- Verify problems and equipment faults and demonstrate appropriate response procedures

Required knowledge:

- Appropriate mathematical procedures for estimation and measurement of loads
- Commonwealth, state or territory OH&S legislation, standards and codes of practice relevant to the full range of processes for the crane class
- Level of literacy to be able to read and comprehend manufacturer's instructions, procedures and safety signs
- Mobile slewing crane characteristics and capabilities to allow the configuration of the crane to suit the range of loads
- Mobile slewing crane operating techniques
- Understanding of the hierarchy of hazard identification and control
- Organisational and workplace standards, requirements, policies and procedures for conducting operations for the crane class
- Procedures for the recording, reporting and maintenance of workplace records and information
- Rated capacity and working load limits (including use of crane load charts)
- Typical routine problems encountered in the process and with equipment and adjustments required for correction

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the Training Package.	
Overview of assessment	• Successful assessment of this unit meets the competency requirement of the National Standard for Licensing Persons Performing High Risk Work. • State/territory OH&S regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OH&S matters.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	• Compliance with OH&S licensing legislation. • Effectively communicate and work safely with others in the work area. • Risk assessment and management procedures (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, crane tipping and demolition sites). • Effectively complete the pre-operational check, positioning, stabilising, set up, operation, post-operational checks of a mobile crane including all functions to their maximum extension in the lifting and moving of loads to the safe working rated capacity of the mobile crane up to 60 tonne capacity in conjunction with other associated personnel. • Appropriate mathematical procedures for estimation of loads.
Context of and specific resources for assessment	• Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument. • Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting. • Assessors must ensure that the assessment in the workplace is organised to ensure that all the required equipment and materials and a suitable

EVIDENCE GUIDE	

	working area is made available to suit the assessment and the workplace.
	• Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints.
	• Assessment is to comply with relevant appropriate standard requirements.
	• Applicants must have access to:
	  • Personal Protective Equipment (PPE) for the purpose of the Performance Assessment.
	  • appropriate slewing mobile crane (21tonne up to 60 tonne) and associated equipment in safe condition
	  • suitable loads as specified by the endorsed Assessment Instrument
	  • communication equipment (e.g. two-way radios, whistles, etc.)
	  • other associated personnel to sling and direct the loads.

Method of assessment	• Assessment must be conducted using the endorsed Assessment Instruments. These Instruments provide advice on their application. • The use of '**simulators**' in the assessment of this unit of competency is **not acceptable**. • Assessment may be in conjunction with the assessment of other units of competency. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstances, but is able to be transferred to other circumstances.
Guidance information for assessment	• Further information about endorsed Assessment Instruments may be obtained from State/territory OH&S regulators.

Range Statement

RANGE STATEMENT

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.	
Hazards	May include but not limited to: • ground stability (e.g. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. powerlines, service pipes) • traffic (e.g. pedestrians, vehicles, other plant) • insufficient lighting • environmental conditions (e.g. wind, lightning, storms, etc.) • other specific hazards (e.g. dangerous materials)
Hazard control measures	Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk: 1 elimination 2 substitution 3 isolation 4 engineering control measures 5 using safe work practices 6 personal protective equipment
Appropriate standard	May include: • codes of practice (mobile crane) • legislation • Australian standards • manufacturer's specifications • industry standards (where applicable)
Associated personnel	May include but not limited to: • riggers • doggers
Appropriate	May include but not limited to: • crane capabilities • environmental conditions (e.g. wind, lightning,

RANGE STATEMENT	
	storms, etc.)
Crane	May include a boom or jib, which is capable of being slewed (up to 60 tonnes capacity) The slewing mobile crane up to 60 tonnes classification encompasses the requirements for the up to 20 tonnes classification
Communication method	May include but not limited to: • verbal and non-verbal language • written instructions • signage • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Signage and labels	May include but not limited to: • crane data plates/labels • load charts • crane decals • control labels
Procedures	May include but not limited to: • manufacturer's guidelines (instructions, specifications or checklists) • industry operating procedures • workplace procedures (work instructions, operating procedures, checklists)
Controls	May include but not limited to: • luffing levers • hoisting and lowering levers • slewing levers including brake • boom extension levers (where fitted)
Service logbook	May include but not limited to: • any logbook • service book • history record system where the service and maintenance history is kept
Crane safety devices	May include but not limited to:

RANGE STATEMENT	
	• horns/sirens • audible and visual reversing devices • operator restraint devices • lights
Communication equipment	May include but not limited to: • fixed channel two-way radios • whistles • bells • buzzers NB: where radio communication equipment is used the transmitting frequencies of the equipment must be selected to prevent interference to or from other radio equipment being used in the vicinity of the crane
Ground suitability	May include but not limited to: • rough uneven ground • backfilled ground • soft soils • hard compacted soil • rock • bitumen • concrete
Stability	May include but not limited to: • deploying outriggers • establishing correct size plates or packing • correctly positioning plates or packing
Crane configuration	May include but not be limited to: • boom/jib • fly-jib • counterweights
Hazard prevention/control measures	May include but not limited to: • safety tags on electrical switches/isolators • powerlines insulated • safety observer used inside exclusion zone • power disconnected • traffic barricades and control • pedestrian barricades

RANGE STATEMENT	
	• trench covers • movement of obstructions • personal protective equipment • adequate illumination
Test lift	The load is lifted just clear of the lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure that: • near capacity loads do not overload the crane • loads of unusual shape or weight distribution are correctly slung • load measuring equipment can be used to verify the calculated weight of the load • all crane equipment is functioning properly • adjustments to the slinging can be made in a safe manner
Relevant crane movements	May include but not limited to: • telescope in and out • boom/jib up and down • slew boom/jib • operation of outriggers/stabilisers • raise and lower hoist • travel
Communication signals	May include but not limited to: • stop - hand • stop - whistle • hoist up - hand • hoist up - whistle • hoist down - hand • hoist down - whistle • luff boom down - hand • luff boom down - whistle • luff boom up - hand • luff boom up - whistle • telescope out - hand • telescope out - whistle • telescope in - hand • telescope in - whistle • slew left - hand • slew left - whistle

RANGE STATEMENT	
	• slew right - hand • slew right - whistle • travel - hand
Unplanned and/or unsafe situations	May include but not limited to: • failure/loss of control (e.g. brakes and steering) • failure of equipment (e.g. hydraulic system) • environmental conditions (e.g. wind, lightning, storms, etc.)
Planned route	May include but not limited to: • unusual or difficult terrains • obstacles or obstructions
Best mobile practice	May include but not limited to: • minimum speed • gentle acceleration and braking (to minimise load swing) • minimum boom/jib length • carrying the load near to the ground surface • boom/jib in line with the crane • boom/jib as low as possible • load faces uphill • use of handheld taglines
Shut down	May include but not limited to: • retracting boom/jib • retracting hoist rope and hook block • positioning/securing boom/jib • retracting outriggers/stabilisers • idling engine to stabilise temperature • turning off engine (where applicable) • removing key from ignition (where applicable) • locking and securing cabin (where applicable)

Unit Sector(s)

Not Applicable

TLIF2012A Apply safe procedures when handling/transporting dangerous goods or explosives

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to apply safe handling strategies when handling dangerous goods or explosives, including driving the vehicle concerned in a safe manner and consulting with relevant authorities/persons in accordance with regulatory requirements. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant Australian and state/territory regulations and codes, including the current Australian Dangerous Goods Code, the Australian Explosives Code, and the Code of Practice for the Safe Transport of Radioactive Substances.

Work is performed under limited or minimum supervision. It involves the application of the basic principles, routine procedures and regulatory requirements to safe handling/transport of dangerous goods/explosives/hazardous substances in a range of operational situations.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Operate equipment and/or vehicle in a safe manner	1.1 Safety equipment is checked for serviceability and required quantities and types 1.2 Equipment/vehicle is operated safely in accordance with the relevant industry regulations, licence/permit requirements/or standards and as directed by police and/ or competent authority 1.3 Safety guidelines and codes are correctly applied 1.4 Dangerous goods/explosives/hazardous substances are handled/conveyed in accordance with the relevant government regulations and codes 1.5 Relevant emergency procedures are assessed relative to the dangerous goods/explosives/hazardous substances concerned 1.6 Emergency procedures are instigated in accordance with the relevant codes and government regulations to ensure precautions are taken consistent with directions set out in the emergency procedures 1.7 Procedures are implemented to minimise damage to equipment, facilities and the environment and minimise injury to personnel
2 Consult with relevant authorities/persons	2.1 Dangerous goods occurrences are reported to the competent authority, fire brigade and/or police using appropriate workplace procedures, in specified timeframes in accordance with relevant regulatory requirements 2.2 Assistance is provided to the competent authority as requested 2.3 Other persons within affected emergency area are warned about the hazard in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant Australian and state/territory regulations and codes pertaining to the identification, handling and marking of dangerous goods, explosives or hazardous substances including the current Australian Dangerous Goods Code
- OH&S procedures and guidelines concerning the lifting and movement of loads
- The company's incident reporting system, and the responsibility of the employer to report incidents to the relevant State or Government authority
- Risks and hazards when handling and conveying dangerous goods, explosives or hazardous

REQUIRED KNOWLEDGE AND SKILLS

substances, and related precautions to control the risk

- Workplace procedures and policies for the handling and transport of dangerous goods, explosives or hazardous substances
- Characteristics of various dangerous goods, explosives or hazardous substances and their implications for handling and transport
- Compatibility of various types of dangerous goods, explosives or hazardous substances
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when handling or transporting dangerous goods or explosives
- Read and interpret instructions, procedures, information and signs relevant to the handling or transporting of dangerous goods or explosives
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the handling or transporting of dangerous goods or explosives
- Operate electronic communication equipment to required protocol
- Work collaboratively with others handling or transporting dangerous goods or explosives
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when handling or transporting dangerous or hazardous goods or explosives in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unanticipated situations that may arise during the handling or transporting of dangerous goods or explosives
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the handling or transporting of dangerous goods or explosives
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in handling and transportation equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of:
  - identifying characteristics and hazards of the dangerous goods/explosives/hazardous substances being handled
  - interpreting relevant signs, labels and codes
  - locating, interpreting and applying relevant information
  - safely handling/transporting dangerous goods/explosives/hazardous substances in accordance with workplace procedures and regulatory requirements
  - identifying, selecting and using appropriate handling/transport equipment, vehicles, personal protection equipment and related procedures

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
  - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
  - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
  - relevant and appropriate materials and equipment, and
  - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation

EVIDENCE GUIDE

- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
  - through activities in an appropriately simulated environment at the registered training organisation, and/or
  - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Operations may be conducted:	• in a range of work environments and weather conditions • by day or night
Customers may be:	• internal or external
Workplaces may comprise:	• internal or external
Work may be conducted in:	• restricted spaces • exposed conditions • controlled or open environments • a workplace, warehouse or depot • a vehicle on the road • client's workplace • convoy of a group of vehicles
Goods/cargo being handled/conveyed may require:	• special precautions for handling, stacking and transport
Classes of dangerous goods/explosives/hazardous substances are:	• as defined in the respective Australian Codes
Standard marking and signage for identified explosives and dangerous goods is as required:	• in the respective Australian Codes
Personnel in the work area may include:	• workplace personnel • site visitors • contractors

RANGE STATEMENT

Communication in the work area may include:	• official representatives • phone • electronic data interchange • fax • email • internet • radio • oral, aural or signed communications
Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • established procedures
Handling operations may be carried out:	• both manually and with the aid of lifting equipment and/or appliances
Load restraint procedures and equipment are:	• as specified in mass and loading regulations and guidelines
Personal protective equipment may include:	• gloves • safety headwear and footwear • safety glasses • two-way radios • high visibility clothing • protective clothing
Information/documents may include:	• goods/materials identification numbers, codes and signs • manifests, bar codes, goods and container identification • manufacturers specifications for equipment/tools • workplace procedures and policies for the handling of dangerous goods, explosives and radioactive and other hazardous substances, and incident reporting • supplier and/or client instructions • material safety data sheets • relevant codes of practice, including the Australian Dangerous Goods Code, the Australian Explosives Code, the Code of Practice for the Safe Transport of Radioactive Substances, the Industry Safety Code, and National Standards for Manual Handling • National Load Restraint Guide • award, enterprise bargaining agreement, other industrial arrangements • standards and certification requirements • quality assurance procedures

RANGE STATEMENT

Applicable regulations and legislation may include:	• emergency procedures
	• Australian and state/territory regulations pertaining to the handling of dangerous goods/explosives/hazardous substances
	• Australian and international regulations and codes of practice for the handling and transport of explosives, dangerous goods and hazardous substances, including:
	  • Australian and International Dangerous Goods Codes
	  • Australian Marine Orders and the International Maritime Dangerous Goods Code
	  • IATA Dangerous Goods by Air regulations
	  • Australian and International Explosives Codes
	  • Code of Practice for the Safe Transport of Radioactive Substances
	  • state/territory legislation covering the safe handling of infectious substances
	• relevant state/territory environmental protection legislation
	• equal opportunity
	• workplace relations regulations
	• equal employment opportunity and affirmative action legislation
	• relevant state/territory OH&S legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field F - Safety Management

UEENEEC001B Maintain documentation

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit covers the maintenance of the variety of documentation required to record work activities, purchases and expenses and compliance obligations. It encompasses documentation typically required in an electrotechnology enterprise, work instructions and procedures and time management.

Application of the Unit

Application of the Unit **2)**

This unit is intended for competency development entry-level employment-based programs incorporated in approved contracts of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit do not require a licence to practise in the workplace. However, practice in this unit is subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

There are no prerequisite competencies for this unit.

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to maintain documentation	1.1 Documentation requirements and methods for the organisation/enterprise are identified, obtained and understood
	1.2 Advice is sought from the work supervisor, when necessary, to ensure the work is correctly documented and coordinate d effectively with others
	1.3 Forms required to document work are obtained in accordance with established routines and procedures
	1.4 OHS risk assessment and control measures are documented before work is commenced in accordance with established routine/procedures.
2 Maintain documentation.	2.1 Activities are documented promptly and at the appropriate time in accordance with established routine/procedures
	2.2 Documentation is checked for accuracy and clarity and any anomalies corrected
	2.3 Where applicable, signature is obtained from an appropriate person and the person's identification documented
	2.4 Where applicable, a copy of any required documentation is forwarded to an appropriate person in accordance with established routine/procedures
	2.5 Procedures for referring non-routine events to immediate supervisor for directions are followed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence must show that knowledge has been acquired of safe working practices and maintaining documentation.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EC001B Maintaining documentation

Evidence shall show an understanding of maintaining documentation to an extent indicated by the following aspects:

T1. Enterprise communication methods encompassing:

- Communicating with personnel encompassing:
  - Oral communications
  - Written procedures and work instructions
- Communicating with suppliers
- Communicating with customers

T2. Work activities records encompassing:

- Purpose and extent of maintaining work activities records in an enterprise
- Types of records for maintaining work activities in an enterprise
- Methods for recording and maintaining work records
- Work records required by regulation requirements

T3. Using basic computers and applications encompassing:

- Starting up
- Selecting application
- Entering information
- Saving
- Printing

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit. It must be read in

EVIDENCE GUIDE

conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

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competency in this unit

Evidence for competence in this unit shall be considered holistically. Each Element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Maintain documentation in any electrotechnology enterprise information system, including:

    A Following enterprise documentation requirements.

    B Enabling documentation to communicate clearly to others.

    C Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

EVIDENCE GUIDE

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment it must ensure that the conditions for assessment are authentic and as far as possible reproduce and replicate the workplace and is consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to maintaining documentation.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:
Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort, competence in this unit may be assessed concurrently with any unit or units that require formal documentation.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit must be demonstrated by maintaining documentation in any electrotechnology enterprise information system.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

Competency Field **11)**

Commercial

UEENEED101A Use computer applications relevant to a workplace

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit covers the basic use of personal computers application relevant to a work function. It encompasses switching the computer on, applying user preferences, selecting basic applications, entering and retrieving information and printing files.

Note:

This unit applies to all aspects of Electrotechnology – engineering applications only. For general competencies related to Information Technologies refer to the latest endorsed IT Training Package.

Application of the Unit

Application of the Unit **2)**

This unit is intended for competency development entry-level employment-based programs incorporated in approved contracts of training. It may be used to augment previously acquired competencies.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit do not require a license to practice in the workplace. However, practice in this unit is subject to regulations directly

License to practice **3)**

related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace.

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to use computer applications.	1.1	OHS procedures for a given work area are identified, obtained and understood through established routines and procedures.
	1.2	Established OHS risk control measures and procedures in relation to computer and keyboard use are followed.
	1.3	Information required for the use of the application is obtained from appropriate sources.
	1.4	Computer is started up and desktop icons are manipulated to access desired application, directories and files.
	1.5	On-screen instructions in relation to any anomaly such as a virus warning are followed.
	1.6	Help directory is used to resolve any straightforward start up or access issues or anomalies.
2 Use computer basic application.	2.1	Established OHS risk control measures and procedures for carrying out the work are followed.
	2.2	Information is added, altered or deleted as needed in accordance with application user instructions.
	2.3	Routine checks are made to ensure accuracy of information in accordance with quality requirements.

ELEMENT	PERFORMANCE CRITERIA
3 Output information from an application.	3.1 Completed files are stored appropriately in accordance with enterprise requirements.
	3.2 Files are printed for a formal record and/or to forward to others.
	3.3 Files are sent via email in a readable format.
4 Shut down computer.	4.1 Files are named, arranged, saved and backed up in accordance with enterprise requirements.
	4.2 Computer shutdown procedures are followed and computer switched off.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices using basic computer applications relevant to a workplace.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-ED101A Basic Computer Applications

Evidence shall show an understanding of computer use basics to an extent indicated by the following aspects:

T1 Starting up

T2 Selecting application

T3 Entering information

T4 Saving

T5 Printing

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Use basic computer applications relevant to workplace as described in 8) and including:

A Correctly starting-up a computer.

B Dealing with anomalies appropriately.

C Following application instructions to input and output information.

D	Storing information appropriately.
E	Outputting information to a printer.
F	Forwarding information via email and/or web mail in a readable format.
G	Producing, storing and forwarding engineering related reports and/or results using at least three computer applications according to requirements
H	Shutting down a computer correctly
I	Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

In addition to the resources listed above, evidence should show demonstrated competency to produce, store and forward

engineering related reports and/or results using a range of computer applications.

Method of assessment **9.4)**

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall/may be demonstrated in relation to at least three of the following using computer applications to produce, store and forward engineering related reports and/or results at a basic level.

- Word processing
- Spread sheet
- Drawings
- Business management
- Apparatus set-up
- Note:

  Apparatus set-up applications are invariably vendor specific and include icon-based integration and control applications.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Computer Systems

UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1**)

1.1) Descriptor

This unit specifies the mandatory requirements of occupational health and safety and how they apply to the various electrotechnology work functions. It encompasses responsibilities for health and safety, risk management processes at all operative levels and adherence to safety practices as part of the normal way of doing work.

Application of the Unit

Not Applicable

Licensing/Regulatory Information

1.2) License to practice

During Training: Competency development activities are subject to regulations directly related to licencing, occupational health and safety and where applicable contracts of training such as apprenticeships.

In the workplace: The application of the skills and knowledge described in this unit require a license to practice in the workplace where work is carried out on electrical equipment or installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Other conditions may apply under State and Territory legislative and regulatory requirements.

Pre-Requisites

Prerequisite Unit(s) **2)**

2.1) Competencies

There are no prerequisite competencies for this unit.

Employability Skills Information

Employability Skills **3)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Application of the Unit **4)**

This unit addresses information, processes and techniques for the application of general occupational health and safety requirements in workplaces and is essential for employees without managerial or supervisory responsibilities

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA	
1	Prepare to enter a work area	1.1	Work area access permits are obtained from appropriate personnel according to established procedures
		1.2	Safe work methods for controlling risk obtained, read and understood prior to undertaking a work activity.
		1.3.	Preparations for electrical and non-electrical isolation are carried out to prevent creation of hazards from loss of machine/system/process control according to established procedures.
		1.4	Tools and equipment needed for the work are checked for safety and correct functionality according to established procedures and regulatory requirements.
2	Apply safe working practices.	2.1	Safe work methods for controlling risk are followed accurately.
		2.2	Workplace procedures for dealing with accidents, fires and emergencies are followed according to work procedures and scope of responsibility and competencies.

ELEMENT	PERFORMANCE CRITERIA	
3. Follow workplace procedures for hazard identification and risk control	3.1	Hazards are identified and control measures implemented and monitored through active participation in the consultation process with employer and other employees.
	3.2	Hazards in the work area are recognised and reported to appropriate personnel according to established procedures.
	3.3	OHS records of incidents are completed in accordance with regulatory requirements and established procedures.
	3.4	Workplace instructions and training are followed accurately within established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and applying OHS practices in the workplace.

The knowledge and skills shall be contextualised to current industry standards, technologies and practices.

KS01-EE101A Occupational Health and Safety principles

Evidence shall show an understanding of Occupational Health and Safety to an extent indicated by the following aspects

T1 The basic legal requirements covering occupational health and safety in the workplace encompassing:

- underlying principles of OH&S
- general aims and objectives of the relevant state or territory legislation relating to OH&S.
- employer and employee responsibilities, rights and obligations.
- major functions of safety committees and representatives.
- powers given to Occupational Health and Safety Inspectors
- housekeeping and potential hazards in relation to improper housekeeping
- selecting appropriate personal protective equipment (PPE) given hazardous situations

T2 The work environment encompassing:

- typical hazards associated with a range of work environments
- procedures used to control the risks associated with these hazards
- principles of risk assessment / management and state the purpose of each.
- hierarchy of OH&S hazard control measures.
- required documentation for risk assessment.
- commonly used workplace safety signs.
- workplace emergencies that pose a threat to health and safety and suitable procedure for an emergency workplace evacuation.
- appropriate fire extinguisher for a given type of fire.
- requirements for the location, mounting and maintenance of portable fire extinguishers.
- basic process of fighting a fire.
- Importance of safe premises, buildings and security in an industrial setting and the consequences of non- compliance.

REQUIRED SKILLS AND KNOWLEDGE

- standard work procedure.

T3 Manual Handling encompassing:

- typical manual handling injuries and the effect they can have on lifestyle
- situations that may cause manual handling injuries
- correct procedures for lifting and carrying to prevent manual handling injuries

T4 Chemicals in the workplace encompassing:

- hazardous substances and dangerous goods.
- classification of chemicals as hazardous substances and/or dangerous goods
- requirements for labelling of chemicals in the workplace
- safe storage procedures for chemicals
- purpose and interpretation of material safety data sheet (MSDS)

T5 Working at heights encompassing:

- dangers associated with working on ladders and scaffolds
- identification of work area as a height risk and use appropriate safety equipment to prevent a fall
- selecting an appropriate ladder for a given situation and perform a safety check before use
- precautions that should be taken when ascending and working off a ladder
- precautions that should be taken when working on and around a scaffold and elevated platforms.

T6 Confined spaces encompassing:

- hazards associated with working in a confined space
- identifying workplace situations that could be classified as a confined space
- control measures for working in a designated confined space

T7 Physical and psychological hazards encompassing:

- short and long term effects of excessive noise and techniques to avoid damage to hearing due to excessive noise
- effects of vibration on the human body and work practices to protect against vibration
- effects of thermal stress on the human body and work practices to protect against thermal stress
- effects of ultraviolet (UV) radiation on the human body and work practices to protect against UV radiation.
- dangers associated with laser operated equipment and tools and suitable protective measures to overcome the danger.
- occupational overuse syndrome, how it occurs and means to overcome it
- factors that cause stress in the workplace, symptoms of a person suffering from stress and personal stress management techniques
- detrimental effects and dangers of drug and alcohol use in the workplace

REQUIRED SKILLS AND KNOWLEDGE

T8 Working safely with electricity encompassing:

- effects of electric shock on the human body
- common causes of electrical accidents
- precautions that can minimise the chance of electric shock (earthing, extra low voltage, fuses, circuit breakers and residual current devices – RCDs)
- protection offered by a residual current device (RCD)
- need for ensuring the (safe) isolation of an electrical supply
- appropriate method of removing an electric shock victim from a live electrical situation

T9 Life support - CPR in the workplace encompassing:

- First Aid.
- responsibilities of the First Aider.
- priorities of first aid management for any accident or injury.
- procedures required at an accident scene.
- legal and ethical issues, which may impact on the management of care.
- 'Duty of Care'.
- examination of a casualty for injuries.
- effect of cardio pulmonary arrest on the body.
- Managing simulated conditions of: airway obstruction; respiratory arrest and cardio pulmonary arrest,
- single and two-person cardio pulmonary resuscitation (CPR).
- signs and symptoms of an altered level of consciousness
- management of simulation of a casualty with an altered level of consciousness.
- signs and symptoms of shock.
- management of simulation of a casualty in shock

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment	**9.1**) Longitudinal competency development approaches to

EVIDENCE GUIDE

assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline,

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work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:

- Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement encompassing:
- Apply sustainable energy principles and practices as specified in the performance criteria and range statement
- Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
- Demonstrate an appropriate level of skills enabling employment
- Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures

- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Applying OHS practices in the workplace as described in 8) and including:

A Preparing to enter the workplace including, the use of work permits and clearances and isolation permissions.

B Understanding and following risk control safe work methods.

C Applying work procedures and instructions as they apply to risk control measures.

D Dealing with accidents and emergencies within the scope of responsibility.

E Participation in consultation processes, identifying hazards and implementing and monitoring control measures.

F Dealing with unplanned events

EVIDENCE GUIDE

Note:
Ability to implement these Occupation Health and Safety measures shall be demonstrated on all occasions safety issues arise.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to applying OHS practices in the workplace.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:
Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

This unit shall be assessed concurrently, as it relates to other units undertaken in a possible skill clusters or qualification.

Components of this unit are included in the critical aspects of

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evidence of all units to help ensure the appropriate level of responsibility for safety has been acquired

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to each of the following

- Relevant Occupational Health and Safety legislation, regulations and codes of practice related to hazards present in the industry and particular workplace
- Accepted industry work procedures and the specific safety procedures and work instructions for particular workplace.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3

Custom Content Section

Competency Field **5)**

Electrotechnology

UEENEEE102A Fabricate, assemble and dismantle utilities industry components

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1)**

1.1) Descriptor

This unit covers basic fitting and fabrication techniques as they apply in the various utilities industry work functions. It encompasses the safe use of hand, fixed and portable power tools; cutting, shaping joining and fixing using metallic and non-metallic materials; dismantling and assembling equipment; basic mechanical measurement and marking-out and reading drawings/diagrams.

Application of the Unit

Not Applicable

Licensing/Regulatory Information

1.2) License to practice

During Training: Competency development activities are subject to regulations directly related to licencing, occupational health and safety and where applicable contracts of training such as apprenticeships.

In the workplace: The application of the skills and knowledge described in this unit require a license to practice in the workplace where work is carried out on electrical equipment or installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Other conditions may apply under State and Territory legislative and regulatory requirements.

Pre-Requisites

Prerequisite Unit(s) **2)**

2.1) Competencies

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

2.2) Further Information:

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

Employability Skills Information

Employability Skills **3)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Application of the Unit **4)**

4.1) General Application

This unit applies to persons entering work in utilities industry and may be used in school-based vocational programs.

4.2) Importation

RTOs wishing to import this unit into any qualification under the flexibility provisions of NQC Training Package Policy

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit of competency

Performance criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for dismantling, assembling and fabrication work.	1.1	OHS procedures for a given work area are obtained and understood through established routines and procedures.
	1.2	Established OHS risk control measures and procedures

ELEMENT	PERFORMANCE CRITERIA	
		in preparation for the work are followed.
	1.3	Safety hazard not previously identified are reported and advice on risk control measures is sought from the work supervisor.
	1.4	The nature of the work is obtained from documentation and from work supervisor to establish the scope of work to be undertaken.
	1.5	Advice is sought from the work supervisor to ensure the work is coordinated effectively with others.
	1.6	Materials required for the work are obtained in accordance with established routines and procedures.
	1.7	Tools, equipment and measuring devices needed to carry out the work are obtained and checked for correct operation and safety.
	1.8	Cutting tools such as drills and chisels are sharpened to suit the material on which they are to be used.
2 Dismantle and assemble utilities industry apparatus.	2.1	Established OHS risk control measures and procedures for carrying out the work are followed.
	2.2	Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	2.3	Appropriate tools are selected and used correctly and safely in dismantling and assembling apparatus.
	2.4	Manufacturer apparatus dismantling and assembling guides are used where applicable.
	2.5	Components are marked or tagged during the dismantling to help ensure correct and efficient reassembly.
	2.6	Dismantled components and parts are stored to protect them against loss or damage.
	2.7	Apparatus is dismantled and assembled efficiently without waste of materials and energy and/or damage to apparatus and the surrounding environment or services.

ELEMENT	PERFORMANCE CRITERIA	
	2.8	Procedures for referring non-routine events to immediate supervisor for directions are followed.
	2.9	Routine quality checks are carried out in accordance with work instructions.
	2.10	OHS risk control work completion measures and procedures are followed.
	2.11	Work site is cleaned and made safe in accordance with established procedures.
	2.12	Work supervisor is notified of the completion of the work in accordance with established procedures.
3 Fabricate utilities industry components.	3.1	Established OHS risk control measures and procedures for carrying out the work are followed.
	3.2	Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	3.3	Appropriate tools are selected and used correctly and safely in fabricating components.
	3.4	Drawings and instruction for the fabrication of components are followed.
	3.5	Component dimensions are determined directly or by calculation from information given in job drawings and instructions.
	3.6	Components are fabricated efficiently without waste of materials and energy and/or damage to the surrounding environment or services.
	3.7	Procedures for referring non-routine events to immediate supervisor for directions are followed.
	3.8	Routine quality checks are carried out in accordance with work instructions.
	3.9	OHS risk control work completion measures and procedures are followed.
	3.10	Work site is cleaned and made safe in accordance with established procedures.

ELEMENT	PERFORMANCE CRITERIA
	3.11 Work supervisor is notified of the completion of the work in accordance with established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and fabricating, dismantling, assembling of utilities industry components.

The knowledge and skills shall be contextualised to current industry standards, technologies and practices.

KS01-EE102A Hand and power tools and their application

Evidence shall show an understanding of hand and power tools and their application to an extent indicated by the following aspects:

T1 Mechanical drawing interpretation and sketching encompassing:

- drawing standards and conventions used in drawings of mechanical components as specified in AS1100
- basic abbreviations and symbols used in drawing of mechanical components
- interpretation of mechanical drawings commonly used in the electrotechnology industry (orthogonal projection, third angle - detail and assembly drawings, pictorial views)
- laying out a drawing of mechanical components using engineering drawing convention.
- freehand drawings of mechanical components showing all information needed for its manufacture/fabrication

T2 Workshop planning and materials encompassing:

- methods used to work safely in an industrial work environment.
- typical non-electrical hazards in the workplace
- control measures for dealing with hazards identified.
- Conducting a risk assessment on a given work environment, documenting and assessing the risks identified
- type of metallic and non-metallic materials used in the electrotechnology industry and application of the common materials
- planning process

T3 Measuring and marking out encompassing:

- reasons for measuring and marking out
- tools used for marking out
- measuring and marking out a project accurately following correct procedures.
- sustainable energy work practices related to reducing waste when marking out.

REQUIRED SKILLS AND KNOWLEDGE

T4 Holding and cutting encompassing:

- common tools for holding (bench vices, multi-grips, vice grips, wrenches).
- common tools for cutting metallic and non-metallic material (hacksaws, wood saws, chisels, pliers, files)
- procedure for using a range of tools for cutting, shaping, and finishing metallic and non-metallic materials
- safety procedures when using holding and cutting tools

T5 Drills and drilling encompassing:

- types of drills used in the electrotechnology industry
- sharpening twist drills
- drilling metallic and non-metallic components
- safe use of a bench drill

T6 Tapping and threading encompassing:

- type and size of commonly used threads used in electrotechnology work
- taps and tap wrenches
- tapping metallic and non-metallic components
- stock and die tools
- threading metallic and non-metallic components

T7 General Hand Tools encompassing:

- hammers used in electrotechnology work
- screwdrivers used in electrotechnology work
- spanners and sockets used in electrotechnology work
- pliers used in electrotechnology work
- assembling components applicable to electrotechnology industry using a variety of hand tools.

T8 Joining techniques encompassing:

- types of machine screws and nuts
- forms of welding (Oxy-acetylene, electric arc welding).
- forms of brazing and hard soldering
- process of soft soldering
- joining components using machine screws
- joining components using welding, brazing or soldering techniques

T9 Portable electric power tools encompassing:

- portable electric power tools (grinders, drills, jigsaws, saws)
- applications of portable electric power tools used in the electrotechnology work.
- using portable power tools.
- fabricating components using power tools (drills, grinders)

REQUIRED SKILLS AND KNOWLEDGE

T10 Sheet metal work encompassing:

- types of sheet metal materials used in the electrotechnology work.
- names and applications of the types of fabrication materials.
- tools used with sheet metals in electrotechnology work (hacksaw, tinsnips, guillotines, punches, notching tools, folding machines)
- techniques used in fabricating sheet metal (cutting, bending, drilling/punching, joining, cutting mitres).
- marking out, cutting, bending, drilling and/or cutting and/or punching holes, joining and cutting mitred joints using sheet metal.
- sustainable energy work practices to reducing waste when fabricating using sheet metal.
- fabricating components using sheet metal and fabrication tools.

T11 Low tolerance measurement encompassing:

- tolerance
- techniques in using vernier callipers
- techniques in using micrometers.
- using vernier callipers to measure engineering components
- using micrometers to measuring engineering components

T12 Dismantling and assembly techniques encompassing:

- tools used in dismantling and assembling electrotechnology equipment (spanners, screwdrivers, bearing pullers, etc).
- procedures for ensuring the safe treatment of dismantled components.
- dismantling electrical, electronic, instrumentation or refrigeration/air conditioning piece of equipment using correct procedures.
- assembling electrical, electronic, instrumentation or refrigeration/air conditioning piece of equipment using correct procedures.

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

EVIDENCE GUIDE

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline,

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work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:

- Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
- Apply sustainable energy principles and practices as specified in the performance criteria and range statement
- Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
- Demonstrate an appropriate level of skills enabling employment
- Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures

- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Fabricate, dismantle, assemble of utilities industry components as described in 8) and including:

A Selecting and using hand tools appropriate to a task correctly and safely

B Selecting and using power tools appropriate to a task correctly and safely

C Sharpening at least two drill bits each for use different types of material.

D Interpreting mechanical drawings/diagrams and instructions correctly.

E Dismantle and assemble an apparatus relevant to utilities industry discipline in which competency is sought.

F Fabricate a component relevant to the utilities industry discipline in which competency is sought.

G Dealing with unplanned events

EVIDENCE GUIDE

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to dismantling, assembling and fabricating utilities industry components.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:
Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with unit:

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to installation, fault finding, maintenance, repair or development work functions in any of the following disciplines:

- Electrotechnology Disciplines
- Gas industry Disciplines
- ESI Transmission, Distribution and Rail Disciplines
- ESI Generation Disciplines

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.3) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3

2.3) Literacy and numeracy skills

Competency Field **5**)

Utilities industry

UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1)**

1.1) Descriptor

This unit covers the use of drawings, diagrams, cable schedules, standards, codes and specifications as they apply to the various electrotechnology work functions. It encompasses the rudiments for communicating with schematic, wiring and mechanical diagrams and equipment and cable/connection schedules, manuals, site and architectural drawings and plans showing the location of services, apparatus, plant and machinery and understanding the use and format of compliance standards and job specifications.

Application of the Unit

Not Applicable

Licensing/Regulatory Information

1.2) License to practice

During Training: Competency development activities are subject to regulations directly related to licencing, occupational health and safety and where applicable contracts of training such as apprenticeships.

In the workplace: The application of the skills and knowledge described in this unit require a license to practice in the workplace where work is carried out on electrical equipment or installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Other conditions may apply under State and Territory legislative and regulatory requirements.

Pre-Requisites

Prerequisite Unit(s) **2)**

2.1) Competencies

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

2.2) Further Information:

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

Employability Skills Information

Employability Skills **3)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Application of the Unit **4)**

4.1) General Application

This unit applies to competency development entry-level employment based programs incorporated in approved contracts of training.

4.2) Importation

RTOs wishing to import this unit into any qualification under the flexibility provisions of NQC Training Package Policy

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit of competency

Performance criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to use drawings, diagrams, schedules and manuals.	1.1	Established OHS risk control measures and procedures are followed.
	1.2	The need for drawings, diagrams, schedules or manuals is determined from the nature of the work to be undertaken.

ELEMENT	PERFORMANCE CRITERIA	
	1.3	Established routines and procedures are followed to obtain drawings, diagrams, schedules or manuals required for the work to be undertaken.
2 Use drawings, diagrams, schedules and manuals to obtain job information.	2.1	Drawings, diagrams, schedules and/or manuals are selected, appropriate to the work being undertaken.
	2.2	Drawings, diagrams and schedules are interpreted using knowledge of drawing layouts, conventions and symbols.
	2.3	Dimensions are extracted from drawings and diagrams for application to work undertaken.
	2.4	Location of equipment is determined from equipment schedules and location diagrams.
	2.5	Manuals are reviewed to ascertain their format and where information relevant to the work to be undertaken is located.
	2.6	Information given in manuals is interpreted in relation to the work to be undertaken.
3 Use drawings, diagrams, schedules and manuals to convey information and ideas.	3.1	Drawing conventions are used in neat freehand drawings to convey information and ideas to others involved in the work to be undertaken.
	3.2	Drawing conventions are used to neatly correct freehand original job drawing to show final 'as-installed' arrangement.
	3.3	Corrected drawings are forwarded to appropriate person(s) in accordance with established procedures.
4 Prepare to use compliance standards, codes and specifications.	4.1	Compliance Standards and Codes that apply to particular disciplines are sought and obtained.
	4.2	The format of compliance Standards and Codes that apply to particular disciplines are reviewed and understood.
	4.3	The purpose and format and typical content of job specifications are reviewed and understood.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and using drawings, diagrams, cable schedules, standards, codes and specifications.

The knowledge and skills shall be contextualised to current industry standards, technologies and practices.

KS01-EE107A Drawings, diagrams and schedules

Evidence shall show an understanding of drawings, diagrams and schedules used in electrotechnology work to an extent indicated by the following aspects:

T1 Architectural drawings encompassing:

- site plans, floor plans detailed drawings and standard drawings
- architectural floor plan to determine the power and lighting or communications / audio/ video layouts required in a domestic installation
- site plan to locate the service point, consumers mains, communication services, main switchboard, distribution boards and/or builders supplies.
- standard drawing scales to determine the actual lengths represented by dimensions on an architectural drawing.
- reading and interpretation of floor plans to determine the location of the electrical/ communication/audio accessories and appliances.
- Australian standard symbols used on floor plans to show the location of the accessories and appliances as detailed in an electrical schedule.

T2 Electrical drawings encompassing:

- types of electrical drawings: block, circuit, wiring and ladder diagrams
- purpose and application of block, circuit, wiring diagrams and ladder diagrams
- Australian standard symbols used to represent components on electrical diagrams.
- conventions used in and the features of circuit diagrams
- converting a circuit diagram to a wiring diagram
- identification of cable type, origin and route from a cable schedule.
- developing a cable schedule for a given installation.

T3 Circuit diagrams encompassing:

- purpose of circuit diagrams in the electrotechnology industry
- conventions used in and the features of circuit diagrams
- sketching basic circuit diagrams
- common symbols used in circuit diagram (Australian Drawing Standard AS/NZS 1102)

REQUIRED SKILLS AND KNOWLEDGE

- developing switching charts to identify the terminals of various types of switches
- connecting equipment using circuit diagrams.

T4 Wiring diagrams encompassing:

- purpose of wiring diagrams in the electrotechnology industry
- conventions used in and the features of wiring diagrams
- sketching basic wiring diagrams
- common symbols used in wiring diagram (Australian Drawing Standard AS/NZS 1102)
- connecting equipment using wiring diagrams.

T5 Building construction drawings and diagrams encompassing:

- building types: timber frame, brick veneer, double brick and metal frame.
- identification of different types of: footings, floors, external walls, roofs, interior walls
- typical cable routes through buildings, structures and premises
- sequence of each constructional stage for brick, brick veneer and timber cottages
- identification of the stages at which the electrical/communications - first and second fixing occurs in the constructional sequence
- areas of cooperation between electrical/communications and other building trades

KS02-EE107A Introduction to regulations, compliance standards and codes

Evidence shall show an understanding of regulations, compliance standards and codes that apply to electrical work to an extent indicated by the following aspects:

T1 Regulation for undertaking electrical work encompassing:

- scope of work covered by licensing in the electrotechnology industry (Electrical licensing)
- legislative requirements for ensuring electrical or electronic equipment is safe i.e. compliance requirements of electrical installations

T2 Standards philosophy and format encompassing:

- performance verses prescriptive requirements
- purpose of technical standards and their development
- role of standards Australia/New Zealand, International Organisation for Standardisation (ISO) and the International Electrotechnical Commission (IEC)
- how standards are used in compulsory and accreditation compliance schemes.
- arrangement and use of technical standards in relation to electrical and electronic work
- how to read and apply a standard.
- Standards and codes that apply to all types of electrical installations
- Standards include Standards mandated under regulation (e.g. Wiring Rules) or by an authority, deemed-to-comply standard and local service requirements (e.g. Service rules).
- Codes include those applicable to electrical safe working practices and some aspects of

REQUIRED SKILLS AND KNOWLEDGE

the Building Code of Australia.

T3 Purpose, format and content of typical job specifications encompassing:

- NATSPEC specification system - provide the most common templates on which job specification are written.

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and

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operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Use drawings, diagrams, schedules, standards, codes and specifications as described in 8) Range and including:

    A Identifying drawings, diagrams, schedules and manuals relevant to the work to be undertaken.

    B Interpreting drawings, diagrams, schedules and manuals correctly.

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C	Using correct conventions in freehand drawings.
D	Giving correct information in freehand drawings.
E	Obtaining compliance Standards and Codes applicable to particular disciplines
F	Reviewing and understanding the format of compliance Standards and Codes that apply to particular disciplines
G	Reviewing the format and content of typical job specifications.
H	Dealing with unplanned events

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to using drawings, diagrams, schedules and manuals.

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Method of assessment	**9.4**) This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'. Note: Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.
Concurrent assessment and relationship with other units	**9.5**) For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with units covering the use of drawings, diagrams, schedules, standards, codes or specifications is required.

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to assembly, installation, fault finding, maintenance or development work functions in any of the following disciplines:

- Appliances
- Business equipment
- Computers
- Data Communications
- Electrical
- Electrical Machines
- Electronics
- Fire protection
- Instrumentation
- Refrigeration and Air Conditioning
- Renewable / sustainable energy, and
- Security technology

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3

Custom Content Section

Competency Field **5)**

Electrotechnology

UEENEEE117A Implement and monitor energy sector OHS policies and procedures

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit covers the mandatory requirements of persons in a supervisory role to implement and monitor an organisation's occupational health and safety policies, procedures and programs. It encompasses understanding an organisation's OHS obligations, providing safety information to staff, implementing and monitoring participative arrangements, safety procedures and training and maintaining safety records.

Application of the Unit

Application of the Unit **2)**

This unit addresses information, processes and techniques for the application of general occupational health and safety requirements in workplaces and is essential for employees work supervisory responsibilities. The unit is based on Generic Competency A in the National Guidelines for Integrating OHS Competencies into National Industry Competency Standards [NOHSC: 7025 (1998) 2nd Edition].

Note:
All States/Territories and the Commonwealth have enacted legislation that establishes a general duty of care for workplace parties to ensure healthy and safe working conditions. In most workplaces, the final responsibility for providing a healthy and safe working environment, as far as practicable, rests with the employer. Employees also have a duty of care in relation to OHS that ensures their health and safety and that of others in the

workplace. The relevant jurisdictional OHS legislation should always be consulted to ascertain the exact duties set down for employers and employees.

Licensing/Regulatory Information

License to practice **3)**

The competency described in this unit does not directly require a license to practice but is subject to regulations for occupational health and safe and contracts of training where they apply.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

There are no prerequisite competencies for this unit.

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Provide OHS information to the work group.	1.1 Relevant provisions of occupational health and safety legislation and codes of practice are accurately and clearly explained to the work group.
	1.2 Information on the organisation's occupational health and safety policies, procedures and programs is provided in a readily accessible manner and is accurately and clearly explained to the work group.
	1.3. Information about identified hazards and the outcomes of risk assessment and risk control procedures is regularly provided and is accurately and clearly explained to the work group.
2 Implement and monitor participative arrangements for the management of OHS.	2.1 Organisational procedures for consultation over occupational health and safety issues are implemented and monitored to ensure that all members of the work group have the opportunity to contribute.
	2.2 Issues raised through consultation are dealt with and resolved promptly or referred to the appropriate personnel for resolution in accordance with workplace procedures for issue

ELEMENT	PERFORMANCE CRITERIA	
		resolution.
	2.3	The outcomes of consultation over occupational health and safety issues are made known to the work group promptly.
3. Implement and monitor the procedures for identifying hazards, assessing risk and controlling risks.	3.1	Existing and potential hazards in the work area are identified and reported so that risk assessment and risk control procedures can be applied.
	3.2	Work procedures to control risks are implemented and adherence to them by the work group is monitored in accordance with workplace procedures.
	3.3	Existing procedures to control risks are implemented and adherence to them by the work group is monitored in accordance with workplace procedures.
	3.4	Inadequacies in existing risk control measures are identified in accordance with the hierarchy of control and reported to designated personnel.
	3.5	Inadequacies in resource allocation for implementation of risk control measures identified and reported to designated personnel.
4 Implement the procedures for dealing with hazardous events.	4.1	Workplace procedures for dealing with hazardous events are implemented whenever necessary to ensure that prompt control action is taken.
	4.2	Hazardous events are investigated to identify their cause in accordance with investigation procedures.
	4.3	Control measures to prevent recurrence and minimise risks of hazardous events are implemented based on the hierarchy of control if within scope of responsibilities and competencies or alternatively referred to designated personnel for implementation.

ELEMENT	PERFORMANCE CRITERIA	
5 Implement and monitor the procedures for OHS training.	5.1	Occupational health and safety training needs are identified accurately, specifying gaps between occupational health and safety competencies required and those held by work group members.
	5.2	Arrangements are made for fulfilling identified occupational health and safety training needs in both on and off-the-job training programs in consultation with relevant parties.
6 Implement and monitor the procedures for maintaining OHS records.	6.1	Occupational health and safety records for work area are accurately and legibly completed in accordance with workplace requirements for occupational health and safety records and legal requirements for the maintenance of records of occupational injury and disease.
	6.2	Aggregate information from the area's occupational health and safety records is used to identify hazards and monitor risk control procedures within work according to organisational procedures and within scope of responsibilities and competencies.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and implementing and monitoring energy sector OHS policies and procedures

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EE117A Energy sector Occupational Health and Safety, supervisory responsibilities

Evidence shall show an understanding of OHS enterprise responsibilities to an extent indicated by the following aspects:

T1 Provisions of relevant occupational health and safety legislation

T2 Principles and practice of effective occupational health and safety management

T3 Workplace hazards, range and selection of control measures

T4 Organisational health and safety management systems and policies and procedures needed for legislative compliance

T5 Impact of characteristics and composition of the workforce on occupational health and safety management

T6 Relevance of occupational health and safety management to other organisational management policies, procedures and systems.

T7 Analysis of entire work environment and judge occupational health and safety interventions

T8 Analysis of relevant workplace data

T9 Ability to assess resources needed for risk control.

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Implement and monitor energy sector OHS policies and procedures as described in 8) and including:

A Providing OHS information to the work group.

B Implementing and monitoring participative arrangements for the management of OHS.

C Implementing and monitoring the procedures for identifying procedures for identifying hazards,

assessing risks and controlling risks.

D Implementing the procedures for dealing with hazardous events.

E Implementing and monitoring the procedures for OHS.

F Implementing and monitoring the procedures for maintaining OHS records.

G Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to implementing and monitoring energy sector OHS policies and procedures.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort, competence in this unit may be assessed concurrently with other related units making up a qualification or possible skill clusters.

Components of this unit are included in the critical aspects of evidence of all units to help ensure the appropriate level of responsibility for safety has been acquired.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to implementing and monitoring energy sector OHS policies and procedures with the following attributes:

- organisation's OHS obligations
- safety information to staff
- participative arrangements implementation and monitoring
- safety procedures
- training
- safety records maintained

Implementing and monitoring the mandatory requirements of persons in a supervisory role an organisation's occupational health and safety policies, procedures and programs shall be demonstrated in the following:

- Relevant Occupational Health and Safety legislation, regulations and codes of practice related to hazards present in the industry and particular workplace
- Implementation of OHS and the specific safety procedures and work instructions for particular workplace

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Electrotechnology

UEENEEM020A Attend to breakdowns in hazardous areas - gas atmospheres

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1)**

1.1) Descriptor

This unit covers the explosion-protection aspects of attending to a breakdown in a hazardous area or of explosion-protected and associated equipment. It requires the ability to ascertain the nature of a breakdown, the extent of repairs required and the personnel needed to repair the breakdown.

This unit is directly equivalent to the Unit *2.3 Attend to breakdowns in hazardous areas* in the Australian/New Zealand Standard *AS/NZS 4761.1 Competencies for working with electrical equipment for hazardous areas* (*EEHA*) *Part 1*: *Competency Standards*. Equivalence includes endorsement in the explosion-protection techniques listed in the Range statement of this unit.

Application of the Unit

Application of the Unit **4)**

This unit augments other formally-acquired competencies in a relevant industry and shall be used only in conjunction such competencies and is intended to apply to plant/equipment service and maintenance job functions in the disciplines of electrical, instrumentation, communication or at AQF 3 or higher. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

1.2) License to practice

The skills and knowledge described in this unit require a license to practice in the workplace subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) **2)**

2.1) Competencies

Granting competency in this unit shall be made after or concurrently with confirming competency in any one of the following units.

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

AND

Competencies in attending to breakdowns in general electrical or instrumentation equipment mechanical plant/equipment service and maintenance at least at AQF 3 or equivalent. Examples are (but not limited to):

UEENEEG005B Verify compliance and functionality of general electrical installations

UEENEEI012B Verify compliance and functionality of process control installations

MEM7.1B Perform operational maintenance of machines/equipment

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

Employability Skills Information

Employability Skills **3)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to attend breakdown.	1.1	Nature of the breakdown is confirmed with appropriate personnel to establish the need to enter the hazardous area.
	1.2	Maintenance records of equipment related to the reported breakdown are review for possible causes.
	1.3	Safety to enter the hazardous area is established in accordance with established procedures and relevant clearance to do the work is obtained.
	1.4	Testing devices and tools, anticipated as being needed for the work, are obtained and checked for correct operation and safety.

ELEMENT	PERFORMANCE CRITERIA	
2 Evaluate extent of work.	2.1	OHS policies and procedures for working in a hazardous area are followed.
	2.2	Extent of breakdown is evaluated and confirmed with appropriate personnel.
	2.3	Other personnel required to determine cause and rectify breakdown is ascertained from available evidence and arrangements made for their attendance where applicable.
	2.4	Extent of repair work is ascertained from available evidence and confirmed with appropriate personnel.
	2.5	Limits of repair work that can be carried out in-situ are established with regards to explosion risk and in accordance with established procedures and requirements.
3 Arrange repair work.	3.1	Equipment is isolated in accordance with established procedures.
	3.2	Circuits of equipment being withdrawn from service are terminated or isolated safely and in manner approved for the classification of the area.
	3.3	Certification documentation for replacement equipment is sighted to ensure that it is identical with the equipment it replaces and is in accordance with the explosion-protection system design.
	3.4	Repair work carried out in-situ is done in accordance with established procedures and requirements.
4 Confirm completion of work.	4.1	Explosion-protected equipment and systems are inspected and tested by appropriately qualified personnel after repairs are completed to ensure the integrity of the system.
	4.2	Appropriate personnel are notified of the completion of the repair work and details are documented in accordance with established procedures and requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and attending to breakdowns in hazardous areas.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EM020 Explosion protection, certification and techniques A

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- Purpose and scope of certification schemes.
- Schemes accepted in Australia and New Zealand.
- Schemes commonly used in countries other than Australia and New Zealand.
- Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex ‘d’) explosion-protection technique encompassing:

- The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex ‘d’) technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- Typical situations where the flameproof explosion-protection technique is used;
- Actions or conditions that would void the protection provided the Flameproof technique;
- The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex ‘e’) explosion-protection technique encompassing:

- The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex ‘e’) technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance

REQUIRED SKILLS AND KNOWLEDGE

distances, absence of sparking contacts and enclosure entries).

- Typical situations where the Increased safety explosion-protection technique is used;
- Actions or conditions that would void the protection provided the Increased safety technique;
- The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

- The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).
- Typical situations where the Non-sparking explosion-protection technique is used;
- Actions or conditions that would void the protection provided the Non-sparking technique; and
- The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).
- Typical situations where the Intrinsic safety explosion-protection technique is used;
- Actions or conditions that would void the protection provided the Intrinsic safety;
- The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).
- Typical situations where the pressurization explosion-protection technique is used;
- Actions or conditions that would void the protection provided the pressurization technique;

REQUIRED SKILLS AND KNOWLEDGE

- The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).
- Typical situations where the each dust explosion-protection technique is used;
- Actions or conditions that would void the protection provided the each dust technique;
- The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- Compliance plate markings.
- Limitations of non-metallic or specific alloy enclosures.
- The purpose of conformity and certification/approval for equipment used in hazardous areas.
- Environmental conditions that may impact on explosion-protection techniques.
- The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence decisions about how/how much the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of

9.2)

EVIDENCE GUIDE

evidence required to demonstrate competency in this unit

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria must be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Attend to breakdowns in hazardous areas as described in 8) and including:

    A Following work permits and clearance procedures

    B Monitoring hazards and following evacuation procedures

    C Following plant and electrical isolation procedures

    D Correctly evaluating extent of breakdowns

    E Interpreting certification documentation in relation

EVIDENCE GUIDE

to repair and replacement

F Following established breakdown procedures

G Applying relevant contingency management skills

Context of and specific resources for assessment

9.3) This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should also be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to attending to breakdowns in hazardous areas.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment primarily intended for learning/assessment which incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with unit:

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

EVIDENCE GUIDE

Competency unit in attending to breakdowns in general electrical or instrumentation equipment mechanical plant/equipment service and maintenance at least at AQF 3 or equivalent chosen as a prerequisite.

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to any classified gas hazardous area and all the following explosion-protection techniques:

- Flameproof, (Ex 'd')
- Increased safety, (Ex 'e')
- Intrinsic safety, (Ex 'i')
- Non-sparking, (Ex 'n')

The following constants and variables included in the element/performance criteria in this unit are fully described in the Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3

Custom Content Section

Competency Field **5)**

Hazards

UEENEEM076A Use and maintain the integrity of a portable gas detection device

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1)**

1.1) Descriptor

This unit covers the gas detection aspects of ensuring a work place is safe from explosive and toxic gases and vapours. It requires the ability to use measuring instruments accurately, follow written instructions and to write instructions for others.

This unit is directly equivalent to the Unit *2.4 Use and maintain the integrity of portable gas detection devices* in the Australian/New Zealand Standard *AS/NZS 4761.1 Competencies for working with electrical equipment for hazardous areas* (*EEHA*) *Part 1*: *Competency Standards*. Equivalence includes endorsement in the explosion-protection techniques listed in the Range statement of this unit.

Application of the Unit

Application of the Unit **4)**

This unit augments other formally-acquired competencies in a relevant industry and shall be used only in conjunction such competencies. It applies to job function that requires entry to a designated hazardous area to undertake repair, maintenance or construction work at AQF 3 level or higher. It is suitable for employment-based programs under an approved contract of training.

Note:

Examples of relevant industries include aviations, electrical installation and maintenance, fuel storage and dispensing industrial process, instrumentation and control,

Application of the Unit **4**)

marine, material handling and storage, mining, and petrochemical.

Licensing/Regulatory Information

1.2) License to practice

The skills and knowledge described in this unit require a license to practice in the workplace subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) **2**)

2.1) Competencies

Granting competency in this unit shall be made after or concurrently with confirming competency in any one of the following units.

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

AND

Competencies required by a given industry or enterprise for plant or machinery operation or installations, maintenance or service functions at least at AQF 2 or equivalent.

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

Employability Skills Information

Employability Skills **3)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to use portable gas detection device.	1.1	The need to initiate gas detection is identified by OHS requirements and established procedures.
	1.2	The gas or vapour to be detected is established from plant/site records or consultation with relevant personnel.
	1.3	Gas detection device(s) for the gas/vapour to be detected is/are checked for calibration and response in accordance with manufacturer instructions.
	1.4	Gas detection devices are checked for factors that could nullify the Ex rating. Note: This would include damaged casing, use of incorrect batteries and/or chargers, use of incorrect spare parts and accessories.

ELEMENT	PERFORMANCE CRITERIA
2 Establish safety of the area with regards to the presence of gases or vapours.	2.1 OHS policies and procedures relating to gas/vapour detection are followed.
	2.2 Gas detection device is used in accordance with manufacturer instructions and with regards to environmental conditions.
	2.3 Observations of gas detection readings are recorded in accordance with established procedures.
	2.4 Safe-to-work is determined from gas detection reading and then clearance to work is issued in accordance with established procedures.
3 Monitor gas detection devices for the presence of gases/vapours.	3.1 The frequency of monitoring is determined from the nature of gas/vapour and the effect of environmental and local conditions (e.g. ambient temperature rise, density of gas/vapour, flash point, dew point and detector position).
	3.2 Others are instructed in procedures to carry out monitoring and these instructions are documented.
4 Follow procedures to maintain gas detection devices.	4.1 Gas detection devices are stored in accordance with manufacturer recommendations.
	4.2 Gas detection devices are formally checked and calibrated periodically in accordance with established site requirements and instrument accuracy.
	4.3 Storage, use and calibration record of the gas detection devices is maintained, in accordance with the established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and using and maintaining the integrity of portable gas detection devices.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EM07 Portable gas detection devices 6A

Evidence shall show an understanding of portable gas detection devices to an extent indicated by the following aspects:

T1 Principles of gas detection and the use and care of portable gas detection devices encompassing:

- Fundamental principles in the use of gas and vapour instruments.
- Use of manufacturer's instruction manual (Instruction manuals include operating instructions, adjustment procedures, operational limitations, and storage).
- Calibration and response checking.

T2 Detecting gases and vapours encompassing:

- apparatus capability and users' knowledge;
- propagation of gases - This includes release of gas and vapours, ventilation, density, temperature and location.
- gases to be detected and not to be detected;
- intended application;
- environmental effects;
- safety when monitoring for flammable gases where personnel could be present;
- common properties of gases and vapours - This includes density of gases, vapours and their mixtures; effect of temperature on density; LEL and UEL of combustibles and toxicity.
- the differences between detecting gases and vapours - These include added complication of evaporation, condensation and temperature effects of vapours and their effect on propagation, calibration and detection, including sampling.

T3 Oxygen deficiency and effects on safety encompassing:

REQUIRED SKILLS AND KNOWLEDGE

- chemical reaction of oxygen with solid products;
- chemical reaction of oxygen with gaseous products; and
- dilution of the air by displacement by some other gas or vapour.

T4 Measuring principles of catalytic sensors, electrochemical sensors, infrared sensors and semi-conductor sensors encompassing:

- common applications;
- limitations and safety;
- interferences of other gases with the measurement; and
- poisoning of the sensor.

NOTE: Detailed information on gas detection is given in AS/NZS 60079.29.2.

T5 Limits of gas detection of flammable (combustible) gas equipment, encompassing—

- limit to which flammable gas detection equipment will only detect gases and vapours that are present in the vicinity of the detector (or in the line of sight of open path apparatus); and
- limit to which flammable gas equipment will not detect combustible liquids as such, or combustible mists, dusts, or fibres.

T6 Limits of vapour detection of flammable (combustible) gas equipment (flammable gas detection equipment will only detect those vapours that do not condense at the temperature of the detector or its sampling equipment).

T7 Interpretation of gas detection instrument readings (behaviour) encompassing:

- upscale reading in the presence of a gas for which an instrument is not calibrated;
- causes of erratic indications;
- reading of low concentrations of gas of interest; and
- off-scale readings.

T8 Toxicity level of flammable gases and vapours and their potential for occurring in a given situation.

T9 Issues with gas and vapour detection in confined spaces.

T10 Use of the manufacturer's instruction manual (operating instructions, adjustment procedures, operational limitations, storage).

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence decisions about how/how much the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of

9.2)

EVIDENCE GUIDE

evidence required to demonstrate competency in this unit

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria must be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Use and maintain the integrity of portable gas detection devices as described in 8) and including:

    A Following work permits and clearance procedures.

    B Monitoring hazards and following evacuation procedures.

    C Determining whether the gas/vapour level in a work area is safe from explosive, toxic and oxygen deficiency aspects.

    D Following procedures to maintain the integrity of

EVIDENCE GUIDE

gas detection devices

E Instructing others in the use of a portable gas detection device in relation to a specific activity.

F Applying relevant contingency management skills.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should also be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to using and maintaining the integrity of portable gas detection devices.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment primarily intended for learning/assessment which incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort competency development in this unit may be arranged concurrently with the following units

EVIDENCE GUIDE

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

and

Competencies required by a given industry or enterprise for plant or machinery operation or installations, maintenance or service functions at least at AQF 2 or equivalent chosen as a prerequisite

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to any classified hazardous area or confined space.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3

Custom Content Section

Competency Field **5)**

Hazards

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1**)

1.1) Descriptor

This unit covers the explosion-protection aspects of plant and machinery operation and maintenance. It requires the ability to visually identify any damage or deterioration of explosion-protected equipment, monitor changes in the explosion hazard and to implement procedures established to limit the risk of an explosion.

This unit is directly equivalent to the Unit 2.2 *Report on the integrity of explosion-protected equipment in hazardous areas* in the Australian/New Zealand Standard *AS/NZS 4761.1 Competencies for working with electrical equipment for hazardous areas* (*EEHA*) *Part 1*: *Competency Standards*. Equivalence includes endorsement in the explosion-protection techniques listed in the Range statement of this unit.

Application of the Unit

Application of the Unit **4**)

This unit augments other formally-acquired competencies in a relevant industry and shall be used only in conjunction such competencies. It applies to management, plant operation, maintenance and engineering job functions at AQF 2 or higher.

Note:

Examples of relevant industries include aviations, electrical installation and maintenance, fuel storage and dispensing industrial process, instrumentation and control, marine, material handling and storage, mining, and

Application of the Unit **4)**

petrochemical

Licensing/Regulatory Information

1.2) License to practice

The skills and knowledge described in this unit require a license to practice in the workplace subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) **2)**

2.1) Competencies

Granting competency in this unit shall be made only after competency required by a given industry or enterprise for plant or machinery operation or installations, maintenance or service functions at least at AQF 2 or equivalent. Examples are, (but not limited to).

UEENEEG005B Verify compliance and functionality of general electrical installations

UEENEEI012B Verify compliance and functionality of process control installations

MEM7.1B Perform operational maintenance of machines/equipment

PMAOPS201B Operate fluid flow equipment

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

Employability Skills Information

Employability Skills **3)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to work in hazardous area.	1.1 Nature of the explosion hazard in the area is known and the status of the explosion hazard is ascertained through established procedures.
	1.2 Operation and condition of plant and machinery, with regards to explosion-protection, is ascertained through established procedures.
	1.3 Established procedures for use of the plant and machinery, with regards to explosion-protection techniques used in the area, are followed.
2 Observe condition of explosion-protection system area.	2.1 OHS policies and procedures, with regards to explosion-protection, are followed.
	2.2 Performance of plant and machinery is monitored to identify faults that may affect the integrity of the explosion-protected equipment and wiring system.

ELEMENT	PERFORMANCE CRITERIA	
	2.3	Observations of explosion-protected equipment and wiring are made during normal operations and visual non-conformances that may affect the integrity of the explosion-protection technique are identified.
	2.4	Explosion hazard monitoring equipment is observed and a potentially dangerous state of the hazard is identified, e.g. by using gas detectors.
3 Take actions to limit risk of an explosion.	3.1	Variations outside normal operating conditions are reported and documented in accordance with established procedures
	3.2	Non-conforming tools, equipment and testing devices are reported and documented in accordance with established procedures.
	3.3	Established procedures are followed in the event of a potential or immediate hazardous condition arising from any non-conformance identified in equipment/wiring or changes in the explosion hazard to a potentially dangerous state.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and reporting on the integrity of explosion protected equipment in hazardous areas.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EM080A Hazardous areas and explosion-protection principles

Evidence shall show an understanding of hazardous areas and explosion-protection principles (including working safely in hazardous areas), principles of the following explosion-protection techniques and visible conditions of explosion-protection equipment that indicate the protection is void and changes in the nature of the explosion hazard that may render the explosion-protection unsafe. to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- typical safety procedures that should be followed before entering a hazardous area;
- the purpose of gas detectors and their limitations;
- effects of temperature on gas and vapour detection;
- frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- safety in use of gas detectors, for example, 'read and run concept'
- the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises

REQUIRED SKILLS AND KNOWLEDGE

and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- condition in the workplace that will lead to an explosion;
- the terms 'combustion', 'ignition' and 'propagation';
- explosive range of substances encountered in the workplace i.e. LEL/UEL;
- explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- the difference between gases and vapours; and
- the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- the Standards definition of a 'hazardous area';
- the recommended methods for classifying the type and degree of explosion hazard in an area;
- hazardous area classifications as defined by Standards; and
- factors that are considered when a hazardous area is classified.
- the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e'); Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD'); Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)
- How explosion-protected equipment is identified by the 'Ex' symbol marked on the equipment, including old equipment and equipment certified in another country.
- Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection visual checks encompassing:

- occupational, health and safety procedures to be followed before entering hazardous areas; and while conducting visual inspection.
- Visible defects in explosion-protected equipment and wiring.
- Conditions that may indicate a change in a given explosion hazard.

REQUIRED SKILLS AND KNOWLEDGE

- Reporting defects in explosion-protected equipment and wiring - the purpose of a verification dossier; and various ways for reporting defects in explosion-protected equipment and wiring.
- procedures to be followed in the event of a change in the explosion hazard.

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence

EVIDENCE GUIDE

decisions about how/how much the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria must be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:

EVIDENCE GUIDE

- Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
- Apply sustainable energy principles and practices as specified in the performance criteria and range statement
- Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
- Demonstrate an appropriate level of skills enabling employment
- Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures

- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Report on the integrity of explosion-protected equipment in hazardous areas as described in 8) and including:

    A Following work permits and clearance procedures.

    B Monitoring hazards and following evacuation procedures.

    C Correctly operation of plant and machinery.

    D Following plant and electrical isolation procedures.

    E Identifying visual damage or deterioration of explosion-protected equipment.

    F Reporting visual defects.

    G Applying relevant contingency management skills.

EVIDENCE GUIDE

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should also be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to reporting on the integrity of explosion protected equipment in hazardous areas.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment primarily intended for learning/assessment which incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort, competency development in this unit may be arranged in combination with other competencies required by a given industry or enterprise for plant or machinery operation or in relation to installation, maintenance or service functions.

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to any classified hazardous area.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3

2.2) Literacy and numeracy skills

Competency Field **5**)

Hazards

UEGNSG003A Locate, prove and protect gas distribution assets

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This competency standard unit is for locating, proving and protecting gas distribution assets. Holders of this competency standard unit will be competent in using gas industry tools and equipment and following relevant gas industry regulation standards, codes of practice and standard operating procedures to locate, prove and protect gas distribution assets from damage, to ensure there is no loss of life, injury or loss of service as a result of work conducted on or near a gas distribution assets. The competency standard unit also includes the relevant occupational health and safety requirements and the relevant knowledge of excavation methods utilised in accessing underground utilities industry assets. Communication techniques for dealing with a variety of stakeholders is also required for this competency standard unit as is completing the required regulatory and company records and documentation.

Note: this competency standard unit does not include the supervision of third party works near a gas distribution asset.

Application of the Unit

Application of the Unit

2)

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all

Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to locate, prove and protect gas distribution assets	1.1	Instructions for the preparation of the work activity are received and confirmed to ensure clear understanding
	1.2	OHS, environmental and sustainable energy policies and procedures are received and confirmed to ensure they are understood as to be applied in the carrying out of the work
	1.3	Equipment, tools and personal protective equipment needed to locate, prove and protect gas distribution assets are identified, scheduled and checked to ensure they work correctly as intended and are safe to use in accordance with established procedures
	1.4	Appropriate persons are consulted to ensure the work is coordinated effectively with others

ELEMENT	PERFORMANCE CRITERIA	
		involved
	1.5	Resources and materials needed to locate, prove and protect gas distribution assets are confirmed, scheduled and obtained in accordance with established procedures
	1.6	Schedule of work including practices for working safely are confirmed in accordance with established procedures
2 Carry out the location, proving and protecting of gas distribution assets	2.1	OHS policies and procedures and safe work practices required for the locating, proving and protection of gas distribution assets are followed to eliminate or minimise incidents and hazards
	2.2	Further instructions are sought from appropriate persons for unplanned events or conditions occurring
	2.3	Standard operating procedures are followed effectively and the appropriate tools are used correctly to locate and prove the location of the gas distribution assets
	2.4	Gas distribution asset location is clearly marked
	2.5	Effective communication occurs with third parties prior to undertaking activities to ensure the protection of the gas distribution asset
	2.6	Schedule of work is regularly checked and followed to ensure work is completed in an agreed time, to a quality standard and with a minimum of waste
3 Completion of relevant documentation for locating, proving and protecting gas distribution assets is undertaken	3.1	Appropriate persons are notified of completion of the work and provided with the location and proving of assets report and documentation
	3.2	Equipment and tools and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance

ELEMENT **PERFORMANCE CRITERIA**

with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work activities in a utilities industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G003A Gas distribution assets

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions

- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.2.5 Read and interpret specifications

Evidence shall show an ability to read and interpret specifications found in drawings and procedures used in a Gas Industry workplace, indicated by the following:

- Interpret specifications including material types and units of measure
- Interpret gas specifications such as pressure ratings and class of pipe and fittings
- Understand the need to use only approved/specified materials

G 2.2.33 Locate utilities and service

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.45 Read and Interpret Utilities Drawings and Diagrams

Evidence shall show a demonstrated ability to correctly identify, interpret and use drawings in Gas Industry workplaces, indicated by the following:

- Identify a range of plans and drawings typically used in the Gas Industry
- Identify the purpose and application of a range of drawings
- Identify commonly used symbols and abbreviations
- Read and interpret scales and legends
- Identify dimensions and orientations
- Identify accessibility of work site in relation to roadways
- Identify underground and overhead utilities and

services such as gas, water, electricity supply and telecommunications
- Identify structures
- Identify key features from sectional details and elevations
- Interpret horizontal and vertical measurements
- Apply drawings and diagrams in a three dimensional environment

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Interpret alignment sheets, maps, technical drawings and symbols Service locators

		Traffic barricades Correctly interpret plans, drawings and maps Obtain procedures and/or work instructions Correctly interpret instructions Advise stakeholders of upcoming work Advising third parties on work permit requirements Perform service location in the area Correct use of PPE required for locating services The use of traffic control management for own activities where appropriate Relevant OHS legislation, regulations, codes of practice, policies and procedures are applied Apply basic planning skills
G	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in locating, proving and protecting gas distribution assets.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the key competencies.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1 Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall/may be demonstrated in relation to carrying out work activities on Gas distribution assets.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Legislation (2)

Safety equipment (2)

Emergency and hazardous work situations (2)

Established procedures and requirements

Personal Protective equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

General Industry

UEGNSG102B Carry out work activities in a utilities industry work environment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency unit covers basic work activities performed in a cross utilities environment. Essential components of this competency are risk assessment, hazard control, following procedures, using basic tools and maintaining a clean and safe worksite.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	3	Writing	3	Numeracy	3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to undertake work activities	1.1	Instructions for the preparation of the work activity are received and confirmed to ensure clear understanding
	1.2	OHS, environmental and sustainable energy policies and procedures are received and confirmed to ensure they are understood as to be applied in the carrying out of the work
	1.3	Equipment, plant, tools and personal protective equipment needed to do the work are identified, scheduled and checked to ensure they work correctly as intended and are safe to use in accordance with established procedures
	1.4	Appropriate persons are consulted to ensure the work is coordinated effectively with others involved
	1.5	Resources and materials needed to do the work are confirmed, scheduled and obtained in accordance with established procedures
	1.6	Schedule of work including practices for working safely are confirmed in accordance with established procedures
2 Carry out work as instructed	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Schedule of work is followed to ensure work is completed in an agreed time, to a quality standard and with a minimum of waste

ELEMENT	PERFORMANCE CRITERIA	
	2.3	Operational knowledge for utilising correct and safe use of basic equipment and tools to perform work is confirmed to ensure completion in an agreed time and to a quality standard with a minimum of waste according to requirements and established procedures
	2.4	Further instructions are sought from appropriate persons for unplanned events or conditions occurring
	2.5	Ongoing checks of quality of the work are undertaken in accordance with instructions and requirements
3 Check the results of the completed work	3.1	Final checks are made to ensure the use of equipment and tools conforms with instructions and to requirements
	3.2	Appropriate persons are notified of completion of the work
	3.3	Equipment and tools and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.4	Work area is cleaned up and made safe and sustainable energy practices are followed
	3.5	Appropriate records are updated in accordance with instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G102B Work in a gas industry environment

G 1.1.1 Utilities industries calculations

Evidence shall show an understanding of performing calculations as required in utilities industries workplaces, indicated by the following:

- perform industry calculations
- interpret graphs and tables
- transpose formulas
- calculations include, gas rates, pressure corrections, volumes, area, measurements purging calculations
- systematic problem solving

G 1.1.2 Use of equipment and tools in the utilities industries

Evidence shall show an understanding of using equipment and tools in utilities industries workplaces, specifically:

- correct use of utilities industry equipment and tools which include drills, shovels, hammers, knives, saws, hand tools, small generator sets, air compressors and hoses, pneumatic and/or electric hammers, rollers and compactors, concrete and ceramic cutters, boring equipment, trenching equipment.
- correct use of utilities industry PPE.

G 1.1.3 Overview of workings in the utilities industries

Evidence shall show an understanding of the different utilities industries, indicated by the following:

- overview of authorities and regulatory bodies
- overview of the electrical supply (transmission and distribution and generation) industry

- overview of the Gas Industry
- overview of the water industry
- overview of the telecommunications industry
- their impact on work to be undertaken and risks associated with work to be performed

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using

correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.2.48 Prepare an excavation site

Evidence shall show an understanding and ability to prepare the site for excavation on a gas industry workplace, indicated by the following:

- Use of Dial Before you dig services
- Preparation of traffic management plans
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Communicating with third parties, colleagues and customers regarding the excavation site
- Reading and interpreting job specifications and standard operating procedures
- Grades and depth required for excavation of trenches for gas pipelines
- Techniques for marking out trench location

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill**	**Item List**

	is to be demonstrated	
A	All	Occupational Health and Safety policies and procedures Hazard Identification Risk Assessment Implement control measures Correct use of PPE
B	At least 6	Tools and equipment: Tape measures Shovels Crowbars Probes Concrete mixers Wheelbarrows Traffic barriers and signs Lighting equipment Service locators Hand and power tools
C	All	Utilities industries calculations
D	All	Read and interpret workplace documents Read and interpret workplace plan and drawings Awareness of other utilities infrastructure and related hazards associated with activities Communicate in a team environment

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in carrying out work in a gas industry environment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1 Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent ssessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEENEEE102A	Fabricate, dismantle, assemble of utilities industry components

Or,

With the following units of competency if delivered in a Certificate II qualification

UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to carrying out work in a gas industry environment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

OHS policies and procedures

Tools and equipment (1)

Appropriate persons (1)

Established procedures and requirements

Legislation

Safety Equipment

Personal Protective Equipment

Emergency and Hazardous Work Situations

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG104B Comply with environmental policies and procedures

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the compliance of environmental polices and procedures whilst undertaking tasks in a utilities industry workplace and refers to relevant legislation, codes and practices and established procedures. The competency standard refers to compliance with relevant sections of Commonwealth and State OHS and Environmental Protection Acts. The checking of plant and equipment should be performed through visual and mechanical checks. The plant and equipment used is that typically used in preparing work sites for underground services and compliance with environmental policies and procedures. Relevant regulations and procedures are referred to, but not limited to, the work site and the use of plant; machinery/equipment; cleaning materials and aids; equipment operation; personal protective equipment.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged

Employability Skills **5)**

will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to comply with environmental policies and procedures	1.1	Work instructions are received and confirmed
	1.2	Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3	OHS, sustainable energy and environmental policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with complying with environmental policies and procedures are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under any relevant work permits are received and confirmed according to requirements and established procedures with relevant persons

ELEMENT	PERFORMANCE CRITERIA	
	1.7	Resources including environmental compliance personal protective equipment required for the job are obtained and in working order according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at the work site are confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident.
	1.9	Client issues are referred to appropriate persons in accordance with industry and community standards
	1.10	Site is reviewed according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Road signs, barriers and warning devices required for the work are identified and positioned in accordance with given instructions and requirements
2 Carry out compliance with environmental policies and procedures	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Environmental requirements for the work are mentioned, reviewed and control measures recommended for inclusion in the work process
	2.3	Any environmental incidents and potential problems are referred to appropriate persons in accordance with established procedures
	2.4	Lifting, climbing, working in confined spaces and or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents

ELEMENT	PERFORMANCE CRITERIA	
	2.5	Operational knowledge for compliance with environmental policies and procedures is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.6	Compliance with environmental policies and procedures is carried out in accordance with given instructions and established procedures
	2.7	Hazard warnings and safety signs are recognised and hazards assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.8	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.9	Problems associated with complying with environmental polices and procedures are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.10	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete the compliance with environmental policies and procedures	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance

ELEMENT	PERFORMANCE CRITERIA
	with established procedures
	3.5 Appropriate persons are notified of work completion according to established procedures
	3.6 Environmental completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for complying with environmental policies and procedures.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G104B Environmental policies and procedures in a gas industry work environment

G 2.1.1 Working in the Gas Sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies

- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Maintain safe, clean and healthy workplace

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs

including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents

- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret workplace documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete routine workplace forms, memos and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply

solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment

- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment

is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 3	Interpret alignment sheets, maps, technical drawings and symbols Identify of potential environmental hazards Carry out risk assessment, JHA or JSA Ensure practical application of Environmental legislation and codes of practise (such as APIA)
B	At least 5	Prevent environmental incidents by implementing

		control measures such as: Install siltation control methods such as straw and synthetic bails Curb side filter rolls Erosion prevention Weed spread mitigation Apply MSDS information Noise control techniques Odourant handling and testing processes Excavation restoration, compaction and seeding
C	At least 2	Control and minimise the impact of an environmental incident: Control environment incident· Incident Investigation Apply incident reporting and notification procedures
D	At least 2	Review environmental incident Make recommendations to prevent reoccurrence Implement recommendations
E	All	Work utilising the relevant OHS legislation, policies and procedures effectively Maintain a safe and clean workplace environment Apply safe manual handling techniques Communicate effectively with others Apply basic planning

		techniques
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in complying with environmental policies and procedures.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working

practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG102B Carry out work activities in a utilities industry work environment

UEGNSG103B Comply with workplace OHS procedures and practices

UEGNSG105B Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to compliance with environmental policies and procedures

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Legislation (2)

Inspection (2)

Safety equipment (2)

Personal Protective Equipment (2)

Relevant regulation and procedures (2)

Emergency and hazardous work situations (2)

Relevant sections of standard operating procedures (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG105B Establish the work site

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the establishment and restoration of the utilities industry work site. This competency standard refers to ensuring a safe place of work is established and involves planning, organising resources, materials and procedures for the required work.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training.

License to practice **3)**

Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to establish/restore the work site and schedule of work	1.1	Work instructions are identified, received and confirmed
	1.2	Relevant requirements, specifications and priorities are set as per procedures to establish and confirm the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with the establishing/restoration of the work site are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under the relevant work permit, where appropriate, is received and confirmed according to requirements and established procedures with relevant persons
	1.7	Resources including equipment, tools, drawings, notices and personal protective equipment required for the job are identified and checked for working order according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at

ELEMENT	PERFORMANCE CRITERIA	
		the work site are checked and confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
	1.9	Client issues are referred to appropriate persons in accordance with industry standards
	1.10	Site preparation is confirmed according to given instructions, as is the site safety plan and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Establish/restore the work site and schedule of work	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces and aloft, and use of power tools/equipment, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for establishing/restoration of the work site is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Establishing/restoring the work site is carried out in accordance with given instructions and established procedures to ensure all process aspects of the work are confirmed
	2.5	Hazard warnings and safety signs are recognised and hazards assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Problems associated with establishing/restoring the work site are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken and work is completed within an allocated timeframe in accordance with given instructions and established procedures
3 Review and document establishment/ restoration of work site schedule of work	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures
	3.7	Performance feedback is sought to confirm outcomes are in agreement with work requirements and specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for establishing the work site.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G105B Establish a worksite in a gas industry environment

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged

and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA’s, JSA’s, JSEA’s, SWM’s etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the worksite

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks

- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate time frames
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics

methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance

- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment

intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 4	Correctly retrieve and use plans, drawings and maps Submit Dial Before You Dig or its equivalent application Obtain procedures and work instructions Correctly interpret instructions Advise stakeholders of upcoming work Prepare a safe work method statement or JSA Obtain all work permits as

		necessary
B	At least 6	Locate all services in area Procure all materials and equipment Obtain all relevant MSDS sheets Identify and control all possible environmental hazards Identify control measures for identified hazards Induct all site workers and explain all hazards Correctly use PPE appropriate to the Industry Perform machinery daily log checks and verify operator qualifications
C	At least 3	Traffic control management Erect barricades Establish warning and safety signs Establish a muster point where appropriate Log all steps onto permit or work sheet
D	All	Work utilising relevant OHS legislation, regulations, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively

		in the workplace Apply basic planning skills
E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in establishing the work site.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working

practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to establishing the work site.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Responsibility (2)

Work plans (2)

Procedures (2)

Documentation (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline

UEGNSG106B Coordinate repair of pipeline, facilities and equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit describes the skills and knowledge required to coordinate the repair of gas pipelines, facilities and equipment. The competency standard will also cover the types of faults that are found; the facilities and equipment used; the documentation and the reports and record keeping that is performed.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for the coordination of repair of pipelines, facilities and equipment	1.1	Work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the coordination of repair of pipelines, facilities and equipment are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed to be in working order

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Relevant persons at work site are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved to carry out work where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Coordinate repair of pipeline, facilities and equipment	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied for coordinating the repair of pipelines, facilities and equipment to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Performing the coordinating the repair of pipelines, facilities and equipment is carried out in accordance with the work schedule and to requirements and established procedures
	2.5	Pipeline facilities/equipment and conditions and all environment hazards, safety risks and control measures are monitored and preventative action

ELEMENT	PERFORMANCE CRITERIA	
		taken and referred to appropriate authorities in accordance with requirements and established procedures
	2.6	Unplanned events in coordinating the repair of pipelines, facilities and equipment are undertaken within the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Recommission systems and equipment	3.1	Repaired/installed equipment is brought back on line at the desired operational parameters and work undertaken is checked against works schedule for conformance with requirements and in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Work completion records, reports and documentation and information is finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the coordination and repair of pipeline, facilities and equipment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G106B Pipeline, facilities and equipment repairs

G 3.2.38 Plan and prepare coordination of repair of pipelines, facilities and equipment

Evidence shall show an understanding of the requirements to plan and prepare coordination of repairs to pipelines, facilities and equipment on a Gas Industry pipelines (Distribution), indicated by the following:

- identification of the types of problems and faults that may require repair
- obtaining, interpreting and using relevant technical drawings, plans or specifications during preparation and planning of repair work
- identification of hazards (including confined spaces) and explanation of ohs, procedures and environmental requirements that require implementation prior to and during repair work
- identification of procedures, persons, equipment and processes required for the repair work and plan the coordination of resources
- required work permits
- locating and securing of emergency equipment and ensuring all persons are familiar with emergency plans.

G 3.2.39 Secure work area and equipment prior to repair

Evidence shall show an understanding of the requirements to secure work area and equipment prior to repair on a Gas Industry pipeline (Distribution), indicated by the following:

- discuss the requirements for and use of work permits, safety plans, non-routine procedures and safety checks
- implementation and adherence to procedures, ohs and

environmental requirements to ensure a safe worksite is established and maintained
- equipment for repair work is depressurised, tagged and locked out
- routine checks and documentation of facilities/equipment and overall repair process
- verification that facilities/equipment are safe for repair work to commence by ensuring that all procedures have been followed and requirements met.

G 3.2.40 Coordinate repair of pipelines, facilities and equipment

Evidence shall show an understanding of the requirements to coordinate repairs of pipelines, facilities and equipment on a Gas Industry pipeline (Distribution), indicated by the following:

- different types of repair procedures relevant to repairing pipelines, facilities and equipment
- management plan and repair procedures relevant to the required work
- procedures to monitor systems, equipment and environmental conditions to ensure procedures, OHS and environmental requirements are maintained during repair work
- repair work and validate the standard to ensure it meets OHS and environmental and legislative requirements
- progress of repair work to evaluate required amendments or modifications and communicate changes to appropriate persons/regulatory authority
- completion/adjustment documentation to reflect the repair work carried out.

G 3.2.41 Recommission systems and equipment

Evidence shall show an understanding of the requirements to recommission systems and equipment on a Gas Industry pipeline (Distribution), indicated by the following:

- procedures to recommission repaired systems and equipment
- identification of the persons and authorities that need to be notified in relation to the recommissioning of the systems and the procedures to carry out the notification
- cancel/sign off of relevant work permits
- restoration of sites in compliance with OHS and environmental legislative and operational requirements
- completion and filing of records and documentation that accurately indicate extent of work performed, results of repair and completion of work with the appropriate

persons and departments.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment

intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work

environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to

safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Interpret technical drawings and symbols Ensure emergency response procedures are in place Communicate with other authorities and stakeholders Communicate schedules /coordinate to persons Carry out job safety analysis Obtain work permit Ensure practical

		application of AS2865 Interpret MSDSs Use and interpret dial before you dig report
B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 3	Nylon (polymide) pipeline laying techniques Nylon gluing Nylon stop off Horizontal drilling Directional drilling
D	At least 5	PE pipeline laying techniques Large diameter PE PE electro fusion PE butt fusion Saddle fusion Socket fusion PE stop off Compression couplings or flanges Connection of PE to nylon Practical application of AS3723 Installation and Maintenance of plastic pipe systems
E	At least 4	UPVC pipeline laying techniques UPVC solvent cemented joints

		UPVC moulded joints UPVC stop off UPVC couplings or flanges Connection of UPVC to steel Practical application of AS3723 Installation and maintenance of plastic pipe systems
F	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
G	At least 3	Connection of PE to steel mains Steel mains welding Steel mains repair Sleeve application Clamp application Hot tap and stopple
H	At least 2	High pressure stop off 312 Bagtube Squash off jacks Squash off pliers
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency working in coordinating repair of pipeline, facilities and equipment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to coordinating the repair of pipelines, facilities and equipment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Types of faults (3)

Facilities and equipment (3)

Documentation (3)

Reports (3)

Record keeping (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG107B Control gas odourisation

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit describes the skills and knowledge required to control gas odourisation. The competency standard also calls up the use of the appropriate tools and equipment; the emergency response procedures and the relevant documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training.

License to practice **3)**

Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to odourise gas	1.1	Work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the control of gas odourisation are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures are identified and prioritised against the work schedule
	1.6	Relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at work site are confirmed to be current in First Aid and other related work procedures according to requirements

ELEMENT	PERFORMANCE CRITERIA	
	1.9	Liaison and communication issues with other/authorised persons, authorities, clients and land owners are resolved to carry out work where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Control odourisation	2.1	OHS and sustainable energy principles and practices to reduce the incidents of accidents and minimise waste are followed in accordance with requirements and established procedures
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to the control of gas odourisation to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Performing the control of gas odourisation is carried out in accordance with the work schedule and established procedures
	2.5	Odourant is handled and transported and potential hazards, safety risks and control measures are monitored and preventative action taken in accordance with requirements and established procedures
	2.6	Unplanned events in the control of gas odourisation are undertaken with the scope of

ELEMENT	PERFORMANCE CRITERIA	
		established procedures
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	Emergency shutdown procedures are applied and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Shutdown odourisation operations	3.1	Shutdown is completed against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements/established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Work completion records, reports as installed/modified drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for controlling gas odourisation.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G107B Gas odourisation

G 3.2.42 Plan and prepare to odourise gas

Evidence shall show an understanding of the requirements to plan and prepare the odourisation of gas on a Gas Industry pipeline (Distribution), indicated by the following:

- MSDS, procedures, OHS and environmental requirements and procedures that require implementation prior to and during gas odourisation
- procedures, equipment, tools, chemicals and processes required to monitor and adjust odourant levels
- correct odourant and dosing levels
- types of emergencies and required emergency equipment and emergency response plans/procedures to relevant gas odourisation operations.

G 3.2.43 Control gas odourisation

Evidence shall show an understanding of the requirements to control gas odourisation on a Gas Industry pipeline (Distribution), indicated by the following:

- procedures and requirements for relevant operating equipment and tools to measure odourant levels
- measuring, filling and adjusting odourant levels in accordance with procedures, OHS and environmental requirements
- explanation of MSDS principles and procedures relevant to the handling and storage of odourant
- handling, storing and transporting odourant in accordance with procedures, OHS and environmental requirements
- procedures and OHS and environmental requirements for

handling spills/leaks and disposing of waste
- disposal of waste products in accordance with procedures, OHS requirements and environmental requirements.

G 3.2.44 Shutdown gas odourisation operations

Evidence shall show an understanding of the requirements to shutdown gas odourisation for Gas Industry pipeline (Distribution), indicated by the following:

- situations that require shutdown and relevant actions to be undertaken
- odourant shutdown procedures and techniques
- required responses to various emergency situations including the use of emergency equipment and the application of first aid
- documentation to be developed in relation to shutdown procedures.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment

intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work

environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and

regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Interpret technical drawings and symbols Ensure emergency response procedures are in place Communicate with other authorities and stakeholders Communicate schedules/coordinate to persons Carry out job safety analysis Obtain work permit

B	All	Operational safety Understanding of environmental and OHS legislation Interpret MSDS Use of gas detection equipment Correct odourant levels Waste management procedures
C	At least 6	Tools and equipment: Odourmeter Lance, hoses, regulators Emergency response kit including absorption material Sodium hypochlorite (neutraliser) Marking agent Level indicator (magnetic detector) Fire control systems Emergency container Transfer pump Molecular sieve for venting
D	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in controlling gas odourisation.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to controlling gas odourisation.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and Equipment (3)

Emergency Response (3)

Documentation (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG108B Operate and monitor pipeline control systems

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers operating and monitoring of pipeline systems (including valve systems, instrument and control systems prime movers, compression systems). This competency standard refers to Pipeline Control Systems; Prime Movers; Instrument and Control Systems; Valve Systems; Emergency Response procedures; Relevant Persons; Tools, Equipment and Testing Devices; Types of Faults and Reports.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan for operation	1.1	Operational area is checked for hazards and the works schedule(s), including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.11	Status of the system is sought through communication with pipeline control centre in accordance with established procedures
2 Operate and monitor system	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.5	Hazard warnings and safety signs are recognised and hazards assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Operating conditions of equipment are monitored through gauge levels, temperatures, flow indicators in order to determine performance of equipment and system

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Information concerning the operation of the pipeline system is monitored and conveyed to relevant persons to ensure safe and efficient operation of the pipeline system
	2.8	Fault finding and troubleshooting techniques are applied to operational systems and equipment to identify any repairs or maintenance that is required according to requirements and established procedures
	2.9	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.10	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.11	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality like outcome is achieved for the client and to a community and industry standard
3 Shutdown system and equipment	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies which are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off

ELEMENT	PERFORMANCE CRITERIA
	accordance with requirements
	3.6 Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for operating and monitoring pipeline control systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G108B Pipeline control systems

G 4.1.1 Operating and supervising in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicating effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Interpret technical drawings and symbols Ensure emergency response procedures are in place Communicate with other authorities and stakeholders Communicate schedules/coordinate to persons Ensure practical application of AS2865 Interpret MSDSs Carry out job safety analysis Obtain work permit Use and interpret dial before you dig or its equivalent report
B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 3	Nylon (polymide) pipeline laying techniques Nylon gluing/stop off Horizontal drilling Directional drilling
D	At least 5	PE pipeline laying techniques Large diameter PE PE electro fusion

		PE butt fusion Saddle fusion Socket fusion PE stop off Compression couplings or flanges Connection of PE to nylon Practical application of AS3723 Installation and Maintenance of plastic pipe systems
E	At least 4	UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC stop off UPVC couplings or flanges Connection of UPVC to steel Practical application of AS3723 Installation and maintenance of plastic pipe systems
F	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
G	At least 3	Connection of PE to steel mains Steel mains welding Steel mains repair Sleeve application Clamp application Hot tap and stopple

H	All	Isolate, vent and purge gas pipeline systems Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
I	At least 2	High pressure stop off 312 Bagtube Squash off jacks/squash off pliers
J	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in operating and monitoring pipeline control systems

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment.

Assessment must also integrate the employability skills in section 3.1 of this competency standard.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to operating and monitoring pipeline control systems. The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Pipeline control systems

Prime movers

Instrument and control system

Valve system

Emergency responses

Relevant persons

Tools, equipment and testing devices

Types of faults

Reports

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG109B Control field pipeline operations

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the skills and knowledge required to control field pipeline operations on a gas pipeline. This competency standard refers to Resources; Operational; Monitoring; Relevant Persons; Types of Faults; Reports.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government

License to practice **3)**

legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan control of operation	1.1	Works schedule(s), including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources to meet pipeline operations are determined in accordance with standard operating procedures
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and

ELEMENT	PERFORMANCE CRITERIA	
		requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.11	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Control operations	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Operating conditions, pressures and temperatures are monitored and observed to determined correct operating parameters of the pipeline are being maintained
	2.5	Alarms and codes are correctly interpreted and acknowledged to ensure the correct response strategy is selected and applied to the situation
	2.6	Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and established procedures
	2.7	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a

ELEMENT	PERFORMANCE CRITERIA	
		minimum of waste according to requirements
	2.8	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.9	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client and to a community and industry standard
3 Shut down pipeline system	3.1	Emergency shutdown procedures are applied in the event of serious equipment failure or operational parameters being set and work undertaken in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Shutdown is completed in accordance with standard operating procedures
	3.5	Shift hand over procedures are performed in accordance with standard operating procedures and pre-shutdown checks are completed and documented in accordance with standard operating procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8)This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the control of field pipeline operations.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G109 Field pipeline operations B

G 4.1.1 Operating and supervising in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.

- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicating effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**

A	All	Apply emergency response systems Ensure knowledge of permit to work system Use emergency equipment including fire fighting equipment correctly Monitor of product and safe fill levels Use correct product transfer procedures Use correct storage processing conditions of product Relay accurate instructions
B	At least 7	Resources: Process control equipment Station power supply Heaters and heat exchanges Station instrumentation Drawings and schematics Metering equipment and gas analysis equipment Valves, actuators and flanges Compressors and prime movers Sumps and drains PIGs
C	At least 4	Monitoring pipeline: Use of fire and gas extinguishing and deluge systems Emergency systems Alarm and communication systems SCADA

		Prime wovers and compression systems Shutdown systems
D	At least 7	Faults: Gas leaks Electrical problems Compressor or pump failure Out-of-current inspection status Gauge failure or hose rupture leaks Instruments out of calibration Non-flow of gas
E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in Context of and specific resources for assessment, evidence should show demonstrated competency in controlling field pipeline operations.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to controlling field pipeline operations.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Resources

Operational

Monitoring

Relevant persons

Types of faults

Reports

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG110B Supervise technical operations for gas distribution or transmission

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the skills and knowledge required to supervise technical operations for gas distribution and transmission. The competency standard refers to Resources; Operational; Monitoring; Relevant Personnel; Types of Faults; Reports.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare to supervise operations	1.1	Project activities are planned to prevent damage and to ensure minimal disruption to gas supply
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and requirements

ELEMENT	PERFORMANCE CRITERIA	
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.11	Expenditure is forecast and managed to keep within operational budget constraints
2 Supervise during projects	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.4	Hazard warnings and safety signs are recognised and hazards assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.5	Fault finding and troubleshooting techniques are applied to operational systems and equipment to identify any repairs or maintenance that is required according to requirements and established procedures
	2.6	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.7	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills

ELEMENT	PERFORMANCE CRITERIA	
	2.8	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client and to a community and industry standards
	2.9	Relevant persons are informed of project status/requirements according to company standard operating procedures
3 Finalise completion details	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies which are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off in accordance with requirements
	3.6	Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for supervising technical operations for gas distribution/transmission.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G110 Technical operations for gas distribution/transmission B

G 5.1.4 Management techniques for Gas Industry supervision

Evidence shall show an understanding and application of management techniques required of Gas Industry operators in a supervisory capacity, indicated by the following:

- industrial awards and employee entitlements
  - industrial conflict
  - industrial relations issues
  - understanding industrial awards and employee entitlements
  - individual and collective bargaining and agreements
- characteristics of ethnic and cultural groups
- Applicable environmental requirements
- relevant organisational standard operating procedures, site specific safety legislation and requirements
- correct waste management procedures
- application of OHS management in relation to other organisational management systems.
- Related organisational policies and procedures such as business planning, training, purchasing.

G 5.1.5 Demonstrate an understanding of the operation of Gas Industry equipment, tools and materials

Evidence shall show an understanding of how Gas Industry tools, equipment and materials operate, indicated by the following:

- relevant organisational maintenance procedures
- operating principles of gas industry infrastructure and equipment including pipelines and facilities

- methodology for location of third-party services
- emergency response systems
- correct pressure adjustment techniques and procedures
- correct procedures for identifying, diagnosing, assessing, analysing, locating, repairing of faults in gas infrastructure and the generation of applicable fault reports.
- use and operation of pipeline PIG's and 'pigging' techniques
- cathodic protection system, installation, adjustment, replacement, checking and maintenance of applicable cathodic levels
- pipeline construction techniques and jointing procedures
- pipeline inspecting and testing techniques
- commissioning and decommissioning procedures of gas infrastructure including pipelines and equipment as applicable
- applicable coating procedures to protect against corrosion.

G 5.1.7 Manage Gas Industry maintenance

Evidence shall show an understanding and application of relevant gas industry infrastructure maintenance and practices at a supervisory level indicated by the following:

- planning of scheduled and non-scheduled maintenance of applicable gas infrastructure
- coordination of maintenance activities
- Implement safety and environmental controls during maintenance activities
- Comply with relevant regulations such as building Codes and Australian Standards during the planning and implementation of maintenance activities
- understanding of applicable project management techniques in maintenance planning and implementation
- manage gas industry projects
- understanding of applicable Human Resource requirements in maintenance activities including appropriate training and qualifications of maintenance personnel.
- Understanding and implementation of relevant aspects of organisational Quality Assurance requirements when planning and implementing maintenance activities

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**

A	At least 4	Resources: Appropriate relevant personnel Materials Tools and equipment Personal protective equipment and clothing Company standard operating procedures Equipment manuals Training resources
B	At least 3	Project activities: Maintenance, repairs and modifications Construction and upgrade Rectification of gas system faults Installation and commissioning of New plant, piping and equipment System security Scheduling work
C	All	Legislative requirements: OHS legislation Relevant Government Acts, regulations and codes of practice Australian standards Environmental legislative requirements
D	At least 3	Relevant authorities: Local and shire councils Local government authorities Road transport authorities

		Rail departments Landowners both current and traditional indigenous
E	At least 8	Gas system faults: Gas leaks Electrical problems Mechanical failure Out-of-current inspection status Gauge failure, hose rupture/leaks Instruments out of calibration Non-flow of gas Cathodic protection system failure Corrosion Compressor breakdown Filtration problems Gas measurement equipment inaccuracy/failure

F	At least 8	Relevant documentation: Contracts, specifications Drawings, plans Manufacturer's specifications Work permits Company standard operation and safety procedures Company management plans and policies Hot work permits Company forms and files OHS laws and codes of practice Relevant Government Acts, regulations and codes of practice Environmental legislative requirements Pipeline licenses Quality assurance Commercial agreements
G	At least 4	Records/reports: Relevant documentation Routine inspections (daily readings, monthly checks) Scheduled maintenance activities Mandatory or statutory inspections Hazard and incident reports
H	All	Management techniques for Gas Industry supervision Understanding the operation of Gas Industry

		equipment, tools and materials
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in supervising technical operations for gas distribution/transmission.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of ssessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to supervising technical operations for gas distribution/transmission.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Resources

Operational

Monitoring

Relevant personnel

Types of faults

Reports (5)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG111B Produce maintenance strategies and plans for a gas facility

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the development of producing maintenance strategies and plans for a gas production facility. The competency standard involves strategies; budgeting; reference information; communication; producing documentation; preparation and implementation strategies.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Research and plan to implement strategies	1.1	Existing strategies are reviewed for maintenance requirements and directions against work schedule
	1.2	Enterprise and site plans are reviewed for impact on maintenance work
	1.3	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.4	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.5	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.6	Cost estimating and economic evaluation is performed and legal implications are investigated to ensure work can be undertaken in accordance with requirements
	1.7	Resources including persons and equipment required are identified, scheduled, coordinated and confirmed
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to

ELEMENT	PERFORMANCE CRITERIA	
		carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.11	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Establish strategies for implementing a maintenance plan	2.1	OHS, environmental and sustainable energy policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Resources required to implement strategies are identified and detailed and the work is performed in accordance with a work schedule and to requirements
	2.3	Timeframes and potential variances for maintenance scheduling are defined and potential risks and control measures are monitored and preventative action taken where necessary
	2.4	Planned objectives are documented in accordance with enterprise requirements
	2.5	Essential Knowledge and Associated Skills is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.6	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality like outcome is achieved for the client and to a community and industry standards
3 Implement maintenance strategy	3.1	Strategies and plans are implemented in order to facilitate required outcomes as per enterprise requirements
	3.2	Strategies are implemented and variances are identified and corrective action is taken in accordance with risk management planning process
	3.3	Final reporting is performed as per enterprise requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8)This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of maintenance strategies and plans for a gas facility.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G111B Maintenance plans

G 5.1.1 Gas Industry concepts for supervising operations

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
  - risk assessment, risk control and risk control

measures
    - hierarchy of control
    - personal protective equipment — strengths and weaknesses
    - identifying hazards and their consequences
    - identifying hazards, assessing associated risks and implementing appropriate control measures
    - developing hazard checklists
    - reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
    - the decision making environment
    - group decision making
    - guidelines for making decisions
    - decision making aids and support systems
    - negotiation with internal and external stakeholders
    - the nature of negotiation
    - strategy and tactics of bargaining
    - pre-negotiation essentials
    - communication in negotiation
- resolve conflict with internal or external stakeholders
    - dealing with negotiation breakdowns
    - social context of negotiation
    - power in negotiation
    - ethics in negotiation.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry environment, indicated by the following:

- emergency management concepts and principles:
  - auditing and planning
  - systems analysis
  - policies and procedures for non-employees and contractors
  - types of emergencies
  - dealing with an emergency
  - elements of an emergency plan
  - employee assistance programs.
- Develop an emergency management plan which includes:
  - First Aid and welfare
  - recovery and post recovery plans
  - legislative requirements
  - interaction with authorities/emergency services
  - communication with key stakeholders
  - initial response/assessment and make safe

G 5.1.4 Management techniques of utilities industry supervision

Evidence shall show an understanding and application of management techniques required of Gas Industry operators in a supervisory capacity, indicated by the following:

- industrial awards and employee entitlements
  - industrial conflict
  - industrial relations issues
  - understanding industrial awards and employee entitlements
  - individual and collective bargaining and agreements
- characteristics of ethnic and cultural groups
- Applicable environmental requirements
- relevant organisational standard operating procedures, site specific safety legislation and requirements
- correct waste management procedures
- application of OHS management in relation to other organisational management systems.
- Related organisational policies and procedures such as business planning, training, purchasing.

G 5.1.6 Technical knowledge for Gas Industry managers

Evidence shall show an understanding and application of the technical knowledge required of Gas Industry managers, indicated by the following:

- development of organisational operational strategies as required
- understanding maintenance philosophies
- engineering principles
- risk management in a Gas Industry environment
- principles of planning including project management planning.

G 5.1.7 Manage Gas Industry maintenance

Evidence shall show an understanding and application of relevant gas industry infrastructure maintenance and practices at a supervisory level indicated by the following:

- planning of scheduled and non-scheduled maintenance of applicable gas infrastructure
- coordination of maintenance activities
- Implement safety and environmental controls during maintenance activities
- Comply with relevant regulations such as building Codes and Australian Standards during the planning and implementation of maintenance activities
- understanding of applicable project management techniques in maintenance planning and implementation
- manage gas industry projects
- understanding of applicable Human Resource requirements in maintenance activities including appropriate training and qualifications of maintenance personnel.
- Understanding and implementation of relevant aspects of organisational Quality Assurance requirements when planning and implementing maintenance activities

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Knowledge and interpretation of OHS legislation Enterprise safety procedures Enterprise site safety and emergency procedures
B	All	Strategy development Maintenance philosophy Engineering principles Risk management Principles of planning Communication principles Problem solving skills
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in producing maintenance strategies and plans for a gas facility

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to producing maintenance strategies and plans for a gas facility.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Strategies

Budget

Reference information

Communication

Documentation (5)

Preparation and implementation strategies

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG112B Conduct isolation procedures for permit to work system for a gas industry work site

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the planning and carrying out of isolation procedures for permit to work system for a Gas Industry work site. The competency standard will apply to other/relevant persons; permits; work completion details.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training.

License to practice **3)**

Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare for isolation, de-isolation and restorations	1.1	Work requirements are identified from work orders and confirmed with appropriate parties or by site inspection
	1.2	Safety issues are identified to comply with statutory, enterprise and site requirements
	1.3	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.4	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.5	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.6	Work is planned in detail and cost estimating and economic evaluation is performed to ensure work can be undertaken in accordance with requirements
	1.7	Resources including persons and equipment required are identified, scheduled, coordinated and confirmed
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to

ELEMENT	PERFORMANCE CRITERIA	
		carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised by permits to work where applicable in accordance with establish procedures
	1.11	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Perform isolation process	2.1	OHS, environmental and sustainable energy policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Resources required to implement strategies are identified and detailed and the work is performed in accordance with a work schedule and to requirements
	2.3	Timeframes and potential variances for isolation are defined and potential risks and control measures are monitored and preventative action taken where necessary
	2.4	System isolation is performed in accordance with established procedures and requirements including OHS
	2.5	Planned objectives are documented in accordance with enterprise requirements
	2.6	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.7	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality

ELEMENT	PERFORMANCE CRITERIA	
		outcome is achieved for the client and to a community and industry standard
3 Perform de-isolation and restoration	3.1	De-isolation and restoration is performed in accordance with required outcomes as per enterprise requirements
	3.2	De-isolations are confirmed with others involved in, or affected by the work in accordance with enterprise site procedures
	3.3	Final reporting is performed as per enterprise requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices in conducting isolation procedures for permit to work system for a gas industry work site.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G112 B Permit to work isolation procedures

G 5.1.1 Gas Industry concepts for supervising operations

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
  - risk assessment, risk control and risk control measures
  - hierarchy of control
  - personal protective equipment — strengths and

weaknesses
    - identifying hazards and their consequences
    - identifying hazards, assessing associated risks and implementing appropriate control measures
    - developing hazard checklists
    - reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
    - the decision making environment
    - group decision making
    - guidelines for making decisions
    - decision making aids and support systems
    - negotiation with internal and external stakeholders
    - the nature of negotiation
    - strategy and tactics of bargaining
    - pre-negotiation essentials
    - communication in negotiation
- resolve conflict with internal or external stakeholders
    - dealing with negotiation breakdowns
    - social context of negotiation
    - power in negotiation
    - ethics in negotiation.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry

environment, indicated by the following:

- emergency management concepts and principles:
  - auditing and planning
  - systems analysis
  - policies and procedures for non-employees and contractors
  - types of emergencies
  - dealing with an emergency
  - elements of an emergency plan
  - employee assistance programs.
- Develop an emergency management plan which includes:
  - First Aid and welfare
  - recovery and post recovery plans
  - legislative requirements
  - interaction with authorities/emergency services
  - communication with key stakeholders
  - initial response/assessment and make safe

G 5.1.4 Management techniques of utilities industry supervision

Evidence shall show an understanding and application of management techniques required of Gas Industry operators in a supervisory capacity, indicated by the following:

- industrial awards and employee entitlements
  - industrial conflict
  - industrial relations issues
  - understanding industrial awards and employee entitlements
  - individual and collective bargaining and agreements
- characteristics of ethnic and cultural groups
- Applicable environmental requirements
- relevant organisational standard operating procedures, site specific safety legislation and requirements
- correct waste management procedures
- application of OHS management in relation to other organisational management systems.
- Related organisational policies and procedures such as business planning, training, purchasing.

G 5.1.6 Technical knowledge for Gas Industry managers

Evidence shall show an understanding and application of the technical knowledge required of Gas Industry managers, indicated by the following:

- development of organisational operational strategies as required
- understanding maintenance philosophies
- engineering principles
- risk management in a Gas Industry environment
- principles of planning including project management planning.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Knowledge and interpretation of OHS legislation Enterprise safety procedures, site safety and emergency procedures
B	All	Strategy development Maintenance philosophy Engineering principles Risk management Principles of planning Communication principles

		Problem solving skills
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of conducting isolation procedures for permit to work system for a Gas Industry work site

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills in section 3.1 of this competency standard.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to conducting isolation procedures for permit to work system for a Gas Industry work site.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Strategies

Budget

Reference information

Communication

Documentation (5)

Preparation and implementation strategies

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG113B Manage a utilities industry OHS management system

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

The competency standard is to be applied to establish, maintain and manage systematic approaches to OHS in the utilities industry. It will be applied in a management context in terms of responsibility to ensure that the workplace is, as far as practicable, safe and without risk to employees, clients and other present visitors.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Establish and maintain participative arrangements for the management of OHS	1.1	Purpose of the OHS management system is established after data is analysed and expected outcomes of the work are confirmed with the appropriate personnel
	1.2	Legislative requirements and established procedures on policies and specifications for the OHS management system are obtained or established with the appropriate personnel
	1.3	Work roles and tasks are allocated according to requirements and individual's competencies
	1.4	Work is prioritised and sequenced for the most efficient outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures
	1.5	Appropriate participative processes with employees and their representatives are established and maintained in accordance with relevant industry standards consistent with enterprise procedures
	1.6	Issues raised through participation and consultation are dealt with and resolved promptly and effectively in accordance with procedures for issues resolution
	1.7	Information is provided to employees about the outcome of participation and consultation in a manner accessible to employees

ELEMENT	PERFORMANCE CRITERIA	
2 Establish and maintain procedures for identifying hazards, assessing and controlling risks as well as dealing with hazardous events	2.1	OHS management system(s) decisions are made on the basis of safety and effective outcomes according to requirements and established procedures
	2.2	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.3	Work teams are arranged to ensure planned goals are met according to established procedures
	2.4	Solutions to non-routine problems are identified and actioned, using acquired Essential Knowledge and Associated Skills, according to requirements
	2.5	Quality of work is monitored against personal performance agreement and established organisational and professional standards
	2.6	Strategic plans are developed incorporating organisation initiatives as per established procedures
	2.7	Workplace procedures are developed for hazard identification, assessment and control of risks as well as dealing with hazardous events
	2.8	Identification of all hazards is addressed at the planning, design and evaluation stages of any changes in the workplace to ensure that new hazards are not created by the proposed changes
	2.9	Procedures for selection and implementation of risk control measures are developed and maintained in accordance with the hierarchy of control
	2.10	Inadequacies in existing control measures are identified in accordance with the hierarchy of control and resources enabling implementation of new measures are provided promptly

ELEMENT	PERFORMANCE CRITERIA	
3 Maintain an OHS induction and training program, maintain a systems for OHS records and evaluate	3.1	Final inspections of the OHS management systems are undertaken to ensure they comply with all requirements and include all specifications and documentations needed to complete the project
the OHS system including policies, procedures and programs	3.2	Appropriate personnel are notified of completion and reports and completion documents are finalised
	3.3	Reports and completion documents are submitted to relevant personnel for approval and where applicable, statutory or regulatory approval
	3.4	Approved copies of the OHS management systems documents are issued and records are updated in accordance with established procedures
	3.5	OHS training needs are identified and an OHS induction and training program developed to fulfil employee's OHS training needs as a part of the enterprise general training program
	3.6	Training management system(s) are maintained so that individual employee's OHS training needs are easily identified, training attendance monitored and non attendance followed up
	3.7	Monitoring systems for keeping OHS records to meet regulatory requirements are maintained according to OHS legislative arrangements including identification of patterns of occupational injury and disease within area of managerial responsibility
	3.8	OHS system including policies, procedures and programs is assessed according to organisational aims with respect to OHS
	3.9	Recommendations and improvements to the OHS system are developed, documented and implemented to ensure effectiveness according to established procedures

ELEMENT	PERFORMANCE CRITERIA
	3.10 Compliance with OHS legislative requirements and established procedures is assessed to ensure that legal OHS standards are maintained as a minimum
	3.11 Appropriate personnel are notified on the outcomes of the evaluation(s) and recommendations and completion documents are finalised/commissioned according to established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired for managing a utilities industry OHS management system.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G113B OH&S management systems

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation

- strategy and tactics of bargaining
- pre-negotiation essentials
- communication in negotiation

- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

G 5.1.4 Management techniques for utilities industry supervision

Evidence shall show an understanding and application of management techniques required of Gas Industry operators in a supervisory capacity, indicated by the following:

- industrial awards and employee entitlements
  - industrial conflict
  - industrial relations issues
  - understanding industrial awards and employee entitlements
  - individual and collective bargaining and agreements
- characteristics of ethnic and cultural groups
- Applicable environmental requirements
- relevant organisational standard operating procedures, site specific safety legislation and requirements
- correct waste management procedures
- application of OHS management in relation to other organisational management systems.
- Related organisational policies and procedures such as business planning, training, purchasing.

G 6.1.4 Communication for utilities industry supervisors

Evidence shall show an understanding and utilisation of technology for communication in a Gas Industry environment, indicated by the following:

- effective communication for Gas Industry managers and supervisors
  - motives for communication
  - communication networks: who communicates with whom
  - verbal and non-verbal communication
  - choosing the medium and the flow of a message
  - blocks to effective communication
- analyse and interpret recorded data, review and report

- use information technology for communication
  - understanding how to use information technology
  - effective use of email, internet and other communication mediums.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to

safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
    - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
    - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
    - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
    - Demonstrate an appropriate level of employability skills
    - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures;
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Note: Competence may be demonstrated working individually or under the guidance of or as a member of a team, with specialist OHS staff, managers or consultants

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Communicate and consult with work groups Develop, implement and maintain the organisational OHS policies and procedures Manage a systematic approach to OHS Understand the relevance to OHS management to other organisational systems, policies and procedures Understand the impact of the characteristics and composition of the workforce on OHS systems
B	All	Understand principles and practice of OHS management including hierarchy of control measures, risk management, OHS training and incident and accident investigation Identify hazards, analyse and manage risks in the workplace and design and implement appropriate OHS management systems Analyse relevant workplace data and deliver information sessions Understand and be able to apply relevant state and territory legislation, regulations, advisory codes

		and standards Develop reports to manage OHS Identify when expert advice is needed, to obtain that advice and to act on it appropriately Assess resources needed to establish and maintain OHS systems including a range of control measures
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in managing a utilities industry OHS management system.

Assessment of this competency must also be undertaken in either

an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG115B Manage gas system projects

UEGNSG116B Manage gas system physical resources

UEGNSG141A Manage environmental performance

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to managing a utilities industry OHS management system to be performed in a utilities industry work environment. The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section.

OHS legislative arrangements

Hazard (5)

Organisational procedure for managing risks including an OHS framework

Work instructions

Designated personnel for OHS

OHS issues

Contributions to OHS

Participative arrangements

Assessing/controlling risks

OHS information to co-workers including training

OHS safety records

Workplace hazard reports

OHS management system

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG114B Coordinate and monitor implementation of a risk management plan for a utilities industry facility

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the coordination and monitoring of the implementation of the company risk management plan in the workplace. This competency standard refers to Risk Management Plans; Persons; Control Measures; Relevant Persons; Legislative Requirements; Emergency Exercises; Emergency Appliances; Safety Devices and Relevant Documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Plan to implement risk management plan	1.1 OHS principles and practices and environmental and sustainable energy procedures which may influence the systems are reviewed and determined
		1.2 Purpose of the implementation of a risk management plan is established after data is analysed and expected outcomes of the work are confirmed with the appropriate persons
		1.3 Organisational established procedures on policies and specifications for the implementation of a risk management plan are obtained or established with the appropriate persons
		1.4 Work roles and tasks are allocated according to requirements and individual's competencies
		1.5 Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures
		1.6 Liaison and communication issues with authorised persons are resolved and activities coordinated to carry out work
		1.7 Appropriate risk management plan and legislative requirements are identified to determine requirements for the workplace
		1.8 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept

ELEMENT	PERFORMANCE CRITERIA	
		clear according to established procedures
	1.9	Assessed risks are rated and priorities allocated according to risk management plan
	1.10	Control measures are identified and implemented to suit the relevant workplace conditions according to risk management plan
2 Implement risk management plan	2.1	Decisions regarding the implementation of the risk management plan are made on the basis of safety and effective outcomes according to requirements and established procedures
	2.2	Technical advice is given in relation to hazards, assessed risks and control measures so that monitoring can be undertaken and appropriate authorities consulted, where necessary, in accordance with requirements and established procedures
	2.3	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.4	Testing of the risk management plan is undertaken according to requirements and established procedures
	2.5	Work teams are coordinated to ensure that planned goals are met according to the risk management plan
	2.6	Contingency plans for critical incidents are invoked in accordance with requirements where critical incidents of an abnormal nature are experienced
	2.7	Strategic plans are developed incorporating organisation initiatives as per established procedures
	2.8	Persons selected are trained for emergency exercises to increase response times and knowledge of hazards and control measures

ELEMENT	PERFORMANCE CRITERIA	
		according to Risk Management Plan
	2.9	Emergency exercises are coordinated and monitored according to the risk management plan
3 Review risk management plan	3.1	Final evaluation of the risk management plan is undertaken to ensure it complies with all requirements and includes all specifications and documentations needed to complete the project
	3.2	Appropriate persons are notified of completion and reports and completion documents are finalised
	3.3	Reports and completion documents are submitted to relevant persons for approval and where applicable, statutory or regulatory approval
	3.4	Approved copies of the risk management plan are issued and records are updated in accordance with established procedures
	3.5	The risk management plan and associated activities are reviewed and assessed for relevance and quality

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8)This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for coordinating and monitoring the implementation of risk management plans for a utilities industry facility.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G114 Risk management plan B

G 5.1.1 Gas Industry concepts for supervising operations

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
  - risk assessment, risk control and risk control measures
  - hierarchy of control
  - personal protective equipment — strengths and weaknesses
  - identifying hazards and their consequences
  - identifying hazards, assessing associated risks and implementing appropriate control measures
  - developing hazard checklists
  - reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry environment, indicated by the following:

- emergency management concepts and principles:
  - auditing and planning
  - systems analysis
  - policies and procedures for non-employees and contractors
  - types of emergencies
  - dealing with an emergency
  - elements of an emergency plan
  - employee assistance programs.
- Develop an emergency management plan which includes:
  - First Aid and welfare
  - recovery and post recovery plans
  - legislative requirements
  - interaction with authorities/emergency services

- communication with key stakeholders
- initial response/assessment and make safe

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the

assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Hazards: Confined spaces Electricity Gas Manual handling Noise Plant and equipment Infected blood Chemicals Temperature extremes Lighting

		Radiation
B	All	Risk management plans: Identification of hazards Assessment of risks Identification of control measures Implementation of control measures and review of control measures Reference to conduct and reporting of hazard operational studies HAZOPS and HAZANS Recognition of six categories of exposures (see range statement)
C	At least first 5	Persons: Organisation employees Contractors Consultants Maintenance persons Appropriately experienced and qualified persons Drivers Cleaners Grounds and site security persons
D	At least 6	Control measures: Elimination of hazards Work procedures Standard operating procedures Personal protective equipment Fire safety Plant and equipment

		isolation Training of appropriate persons Communication with appropriate persons Supervision of appropriate persons Maintenance of control measures
E	All	Gas Industry concepts for supervising operations Problem solving, decision making and conflict resolution Emergency management
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in Context of and specific resources for assessment, evidence should show demonstrated competency in coordinating and monitoring implementation of a risk management plan for a utilities industry facility

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG115B Manage gas system projects

UEGNSG116B Manage gas system physical resources

UEGNSG113B Manage a utilities industry OHS management system

UEGNSG120B Manage gas system environmental compliance

Or, with the following units of competency if delivered in the Advanced Diploma qualification:

UEGNSG115B Manage Gas Industry systems projects

UEGNSG116B Manage physical resources

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications

UEGNSG119B Manage workplace risk in a Gas Industry facility

UEGNSG120B Manage gas system environmental compliance

UEGNSG121B Prepare safe design specifications of a gas system

UEGNSG122B Manage a customer service gas business unit

UEGNSG123B Manage financial resources in a Gas Industry facility

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to coordinating and monitoring the implementation of risk management plan for a utilities industry facility.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Hazards (5)

Risks

Risk Management Plans

Persons

Control Measures

Relevant Persons

Legislative Requirements (5)

Emergency Exercises

Emergency Appliances

Safety Devices

Relevant Documentation (5)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG115B Manage gas systems projects

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the competency required to oversee the management of major construction or maintenance activities in either natural gas or LPG systems. This competency standard refers to Resources; Project activities; Appropriate persons; Legislative and company requirements; Relevant authorities and other stakeholders; Communication strategy; Relevant documentation; Records/reports.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare project plan	1.1	OHS principles and practices and environmental and sustainable energy procedures which may influence the systems are reviewed and determined
	1.2	Resources are identified, tender documents and projected scope are prepared and tenders called for in accordance with company policy and procedures
	1.3	Performance measures are identified and project management plan is implemented in accordance with established procedures
	1.4	Testing procedures are discussed with appropriate persons in order to ascertain the project brief
	1.5	Testing parameters are established from organisational established procedures on policies and specifications
	1.6	Equipment, tools and personal protective equipment are selected and coordinated based on specified requirements and established procedures
	1.7	Work roles and tasks are allocated according to requirements and individual's competencies
	1.8	Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.11	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
2 Implement and manage project plan	2.1	Project schedule and project administration plan is developed and communication strategy with contractors, company representatives and technical experts is developed and implemented
	2.2	OHS and sustainable energy principles, functionality and practices to reduce the incidents of accidents and minimise waste are incorporated into the project in accordance with requirements and established procedures
	2.3	Applications for work permits, access permits and licences are prepared and submitted to authorities and stakeholders for approval and resources are acquired and administered in accordance with the project plan
	2.4	Contractors are selected and managed in accordance with the project plan and that project variations are negotiated with all stakeholders and progress reports are prepared and presented with explanations of any over runs
	2.5	Technical advice is given to hazards, assessed risks and control measures so that monitoring can be undertaken and appropriate authorities consulted, where necessary, in accordance with requirements and established procedures
	2.6	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Testing is undertaken according to requirements and established procedures
	2.8	Work teams are arranged to ensure planned goals are met according to established procedures
	2.9	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.10	Quality of work is monitored against personal performance agreement and established organisational and professional standards
	2.11	Strategic plans are developed incorporating organisation initiatives as per established procedures
3 Finalise and hand over projects	3.1	Remedial work is identified, scheduled and completed
	3.2	Final inspections are undertaken to ensure they comply with all requirements and include all specifications and documentations needed to complete the project
	3.3	Appropriate persons are notified of completion and reports and completion documents are finalised.
	3.4	Reports and completion documents are submitted to relevant persons for approval and where applicable, statutory or regulatory approval
	3.5	Approved copies of documents are issued and records are updated in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8)This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for managing gas systems projects.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G115 Gas system projects B

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 5.1.1 Supervise Gas Industry operations

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
  - risk assessment, risk control and risk control measures
  - hierarchy of control
  - personal protective equipment — strengths and weaknesses
  - identifying hazards and their consequences
  - identifying hazards, assessing associated risks and

implementing appropriate control measures
    - developing hazard checklists
    - reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry environment, indicated by the following:

- emergency management concepts and principles:
    - auditing and planning
    - systems analysis
    - policies and procedures for non-employees and contractors
    - types of emergencies
    - dealing with an emergency
    - elements of an emergency plan
    - employee assistance programs.
- Develop an emergency management plan which includes:
    - First Aid and welfare
    - recovery and post recovery plans
    - legislative requirements
    - interaction with authorities/emergency services
    - communication with key stakeholders
    - initial response/assessment and make safe

G 5.1.7 Manage Gas Industry maintenance

Evidence shall show an understanding and application of relevant gas industry infrastructure maintenance and practices at a supervisory level indicated by the following:

- planning of scheduled and non-scheduled maintenance of applicable gas infrastructure
- coordination of maintenance activities

- Implement safety and environmental controls during maintenance activities
- Comply with relevant regulations such as building Codes and Australian Standards during the planning and implementation of maintenance activities
- understanding of applicable project management techniques in maintenance planning and implementation
- manage gas industry projects
- understanding of applicable Human Resource requirements in maintenance activities including appropriate training and qualifications of maintenance personnel.
- Understanding and implementation of relevant aspects of organisational Quality Assurance requirements when planning and implementing maintenance activities

G 6.1.1 Understand and utilise concepts and skills for Gas Industry supervisors

Evidence shall show an understanding and interpretation of the concepts and skills required of Gas Industry supervisors to undertake activities, indicated by the following:

- applicable mathematical techniques and principles to enable production of relevant supervisory level calculations, data processing requirements and reports
- engineering principles and operating principles of pipeline systems
- understanding of safe design principles
- appropriate environmental requirements
- correctly read, analyse, interpret and record data
- third-party service location methods
- construction principles and safety
- applicable gas chemistry, properties and characteristics.

G 6.1.2 Understand and utilise information for Gas Industry supervisors

Evidence shall show an understanding of the requirements to undertake supervision/management in a Gas Industry environment, indicated by the following:

- principles of gas flow and gas metering
- organisational standard operating procedures
- site specific safety legislation and safety requirements
  - overview of Occupational Health and Safety including systematic approaches to OHS
  - health and safety stakeholders (union, employers, workers, contractors and managers) hazards

    - risk assessment and control relating to areas such as:
- electrical safety
- vibration
- outdoor work
- stress
- equipment, tools and plant
- noise
- chemicals and substances
- manual handling
- confined spaces
    - Stakeholder Relations
- managing contractors, industry awards, and employee entitlements
- understanding government and business relations
- employee associations
- industry associations
- awards and agreements
- collective bargaining and individual agreements
- conciliation, arbitration, mediation and negotiation
- coordinate the work of others
- adhere to OHS legislation and regulations
    - understanding government and the development of statute and common law
    - principles of Occupational Health and Safety and risk management
    - Occupational Health and Safety legislation and regulations
- observe environmental and legislative requirements
    - understanding government and the development of statute and common law
    - principles of Occupational Health and Safety
    - environmental and other legislative requirements
- apply applicable permit to work system including types of permit limitations
    - understanding the permit to work system
    - identifying the limitations in a permit to work system
- develop and review standard operating procedures
- review and report on completed work
- employ correct waste management procedures
    - appropriate waste management procedures
    - organisational requirements for waste management

- consequences of not managing waste effectively
- knowledge of native title issues and legislation
- analyse relevant workplace data eg incident and environmental monitoring to evaluate the effectiveness of the OHS management system.

G 6.1.3 Commission/decommission pipelines and cathodic protection principles for Gas Industry supervisors

Evidence shall show an understanding of commission/decommissioning and cathodic protection principles required of Gas Industry supervisors, indicated by the following:

- commissioning and decommissioning procedures for pipeline and gas industry facilities and infrastructure
- cathodic protection systems
- plan and design commissioning procedures
- plan and design cathodic protection commissioning procedures

G 6.1.4 Communicate effectively

Evidence shall show an understanding and utilisation of technology for communication in a Gas Industry environment, indicated by the following:

- effective communication for Gas Industry managers and supervisors
  - motives for communication
  - communication networks: who communicates with whom
  - verbal and non-verbal communication
  - choosing the medium and the flow of a message
  - blocks to effective communication
- analyse and interpret recorded data, review and report
- use information technology for communication
  - understanding how to use information technology
  - effective use of email, internet and other communication mediums.

G 6.1.6 Plan and carry out project management

Evidence shall show an understanding and application of the requirements to undertake project management in a Gas Industry environment, indicated by the following:

- project management and costing
  - project planning processes

- determining project costing
- planning for events and milestones
- determining inputs
- producing outputs to a plan

- planning theory and its processes
  - the importance of planning
  - the planning process
  - organisational goals and objectives
  - strategic planning
  - operational planning
  - forecasting
- prioritise techniques
  - organising/prioritise work flows
  - time management
  - stress management
- managing persons and resources including consultants
  - understanding people
  - understanding behaviour
  - perceiving the causes of behaviour
  - defining leadership
- manage meetings
  - understanding organisational communication
  - formal and informal organisational communication
  - managing meetings and recording minutes
  - drafting minutes
- prepare reports
  - planning the writing process
  - developing the scope and outline of a document/report
  - drafting documents/reports utilising a plan and outline
  - finalising documents/reports
- facilitate contracts and employment
  - parliament, government and the law
  - statute law
  - common law
  - contracts and contract law
  - employment law
- understanding of sound business principles and performance measures

- understanding organisational behaviour
- business fundamentals
- establishing the principles of performance management
- establishing performance measures

- understanding of competition policy, budgets and product pricing and tariffs
  - understanding of government business relations in the Gas Industry
  - how tariffs are determined
  - working within legislative guidelines in tariffs and pricing.

G 6.1.7 Understand chemical and physical behaviours of gas

Evidence shall show an understanding of the chemical and physical behaviour of gases, and their effects in a gas system indicated by the following:

- chemical and physical behaviours of natural and liquefied petroleum gas
  - understanding of basic chemistry and physics of gases
  - the chemical makeup and properties of natural gas and LPG
  - dangers of working with natural gas and LPG and how to manage natural gas and LPG
- transportation of LPG and natural gas
  - understanding of issues associated with transporting of natural gas and LPG
- LPG supply logistics
  - correct filling procedures for LPG
  - identifying abnormal cylinder conditions
  - correct storage of LPG.

G 6.1.8 Managing environmental and cultural sensitive issues

Evidence shall show an understanding and implementation of the effective management of environmental and culturally sensitive issues in a Gas Industry environment, indicated by the following:

- understanding applicable environmental legislative compliance and regulation
  - understanding government and laws
  - penalties
  - acting in compliance with laws
- understanding of cultural and community standards and

their sensitivities
- communities and their interaction with government and business in Australia
- cultural issues in Australia
- using ethical behaviour in approaching cultural issues
- anti discrimination legislation in Australia
- native title issues in Australia

- understanding the impacts of gas installations and infrastructure on the environment and its impacts to native title
  - government and business environmental obligations
  - Australian environmental legislation and its affect on industry
  - the impact of construction of assets to the Australian environment
  - native title considerations for Gas Industry asset owners
- managing sensitive negotiations and communicating with a wide variety of stakeholders
  - understanding stakeholder politics in Australia
  - negotiation and bargaining
  - conciliation and arbitration
  - understanding of sensitive issues and the implications for negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for

apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 2	Resources: Relevant persons Materials, tools and equipment Personal protective equipment and clothing company standard operating procedures Equipment manuals, training resources.
B	At least 3	Project activities: Major construction and maintenance activities in

		the LPG or natural gas sector, Transmission and distribution pipelines LPG storage facilities greater than 50kL Underground storage Tankers and ships Control systems Custody transfer stations Odourising plant Corrosion control Interconnecting systems.
C	At least 2	Appropriate persons: Organisation employees Maintenance persons Appropriately experienced and qualified persons Site security persons Contractors and their employees Inspectors and regulatory authority representatives.
D	All	Legislative and company requirements: Occupational Health & Safety legislation Relevant Government Acts, regulations and codes of practice Australian Standards and Environmental legislative requirements Company Standard Operating Procedures and authorisation requirements and technical standards requirements

E	At least 2	Relevant authorities and other stakeholders: Authorities Local councils Emergency services Road and rail transport authorities Government departments Land owners/Traditional land owners Contractors and other organisational persons
F	All	Communication strategy: Verbal directions Relevant documentation Project records/reports Electronic communications, internet communication.
G	At least 4	Relevant documentation: Specifications Drawings/plans; 'as-constructed' drawings/plans Manufacturer's specifications Work permits Company standard operation and safety procedures Company management plans and policies Hot work permits Company forms and files OHS, laws and codes of practice Relevant Government

		Acts, regulations and codes of practice Environmental legislative requirements Quality assurance; expenditure reports and budgets
H	At least 2	Records/reports: Relevant documentation Routine inspections (daily readings, monthly checks) Scheduled maintenance activities Mandatory or statutory inspections Hazard and incident reports
I	All	Interpreting Gas Industry drawings Understanding emergency management Concepts and skills for Gas Industry supervisors Understanding commission/decommission pipelines and cathodic protection principles for Gas Industry supervisors Communication for Gas Industry supervisors Understanding of project management techniques Understanding of chemical and physical behaviours of gas Managing environmental and cultural sensitive issues
J	At least one occasion	Deal with an unplanned event by drawing on

		essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of managing gas systems projects.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and

demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG113B Manage a utilities industry OHS management system

UEGNSG116B Manage gas system physical resources

UEGNSG120B Manage gas system environmental compliance

Or, with the following units of competency if delivered in the Advanced Diploma qualification:

UEGNSG116B Manage physical resources

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications

UEGNSG119B Manage workplace risk

UEGNSG120B Manage gas system environmental compliance

UEGNSG121B Prepare and design specifications for a gas system

UEGNSG122B Manage a customer service gas business unit

UEGNSG123B Manage financial resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance..

This Unit shall be demonstrated in relation to managing gas systems projects.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Resources

Project activities

Appropriate persons (6)

Legislative and company requirements:

Relevant authorities and other stakeholders

Communication strategy

Relevant documentation (6)

Records/reports (6)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG116B Manage Gas Industry Physical Resources

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the competency to authorise the acquisition and management of physical resources to achieve the business's objectives. This competency standard refers to Physical resources; Acquisition and allocation of resources; Organisational policy and procedures that may vary between sectors and organisations; Budget formats; Budgets; Relevant authorities and other stakeholders; Expected lifetime of equipment.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where gas industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other then those directly related to Occupational Health and Safety, gas industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain

License to practice **3)**

equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan, determine and review physical resource requirements	1.1	Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures
	1.2	Liaison and communication issues with authorised persons, authorities, clients and land-owners are resolved and activities co-ordinated to carry out work
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Physical resource requirements are determined in line with demonstrated needs and cost benefit analysis determined to demonstrate the return to the organisation
	1.5	Physical resource requirements are consolidated, rationalised and negotiated and acquired in the context of organisational requirements and budgets
	1.6	Replacement/acquisition/refurbishment of major items are scheduled based on expected lifetime of equipment and anticipated needs of the organisation
2 Direct and coordinate the acquisition and allocation of physical resources	2.1	Physical resource inventory is established and maintained for easy tracking of resource location/history
	2.2	Maintenance schedules and budgets are developed and approved in consultation with

ELEMENT	PERFORMANCE CRITERIA	
		stakeholders with due regard to occupational health and safety needs and in accordance with established procedures
	2.3	Mathematical models are used to analyse the effectiveness of the finished product as per requirements and established procedures
	2.4	Systems are developed and implemented which facilitate collection, processing and management of data on resource use and maintenance/asset management
	2.5	Technical advice is given to hazards, assessed risks and control measures so that monitoring can be undertaken and appropriate authorities consulted, where necessary, in accordance with requirements and established procedures
	2.6	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.7	Work teams are arranged to ensure planned goals are met according to established procedures
	2.8	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired essential knowledge and associated skills
	2.9	Quality of work is monitored against personal performance agreement and established procedures and professional standards
	2.10	Strategic plans are developed incorporating organisation initiatives as per established procedures

ELEMENT	PERFORMANCE CRITERIA	
3 Complete and coordinate physical resource requirements	3.1	Final inspections are undertaken to ensure they comply with all requirements and include all specifications and documentations needed to complete the project
	3.2	Effectiveness of acquisition and allocation of resources is monitored and assessed to meet organisational needs
	3.3	Inefficiencies in resource provision are identified and corrected
	3.4	Acquisition and allocation of resources and costs incurred are recorded and reported
	3.5	Appropriate persons are notified of completion and reports and completion documents are finalised
	3.6	Reports and completion documents are submitted to relevant persons for approval and where applicable, statutory or regulatory approval
	3.7	Approved copies of documents are issued and records are updated in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired for managing gas industry physical resources.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G116B Gas industry physical resources

G 5.1.6 Technical knowledge for Gas Industry managers

Evidence shall show an understanding and application of the technical knowledge required of Gas Industry managers, indicated by the following:

- development of organisational operational strategies as required
- understanding maintenance philosophies
- engineering principles
- risk management in a Gas Industry environment
- principles of planning including project management planning.

G 6.1.9 Understand and implement financial management

Evidence shall show an understanding of the requirements to perform applicable Gas Industry financial management activities, indicated by the following:

- Understanding financial management with the ability to reporton project and company budgets utilising financial statements as required by organisational policies and procedures. These include but are not limited to:understanding financial management fundamentals and the how the following are tracked through in an accounting system:
- assets and liabilities
- revenue
- expenses
- equity
- source documents

- journals
- ledgers
- trial balance
  - reading, interpreting and reporting on project/company progress using accounting reports such as budget and cash flow reports
- understanding of resource management systems to monitor inventory, stock, consumables and physical resources and other assets
  - managing resources
  - maintaining assets/assets management
  - stock/consumables control
  - maintaining assets register
- understanding of computer accounting/bookkeeping software effectively
  - accounting software systems
  - invoicing
  - reconciling accounts
  - purchasing
  - stock control
  - general ledger
  - payroll
  - reporting.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit is based, shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	At least 5	Physical resources: Property/facilities Fixtures and plant Vehicles Equipment Stocks and supplies Gas systems and plant Works depot Pipelines Distribution systems Storage depots and installations
B	At least 5	Acquisition and allocation of resources: Identified priorities Sustainability Type of physical resource Urgency Cost of use Accessibility Endurance Maintenance demands Deployment time Customer needs Hazard and risk analysis
C	At least 1	Budget formats: Zero based budgeting Program budgeting Line item budgeting Organisation specific budgets Output/outcome budgeting

D	All	Budget: Capital expenditure Recurrent expenditure Output investment proposal Cash flow
E	At least 4	Relevant authorities and other stakeholders: Staff Managers Government (state, local, federal) Unions Community Industry Owners of leased property
F	At least 3	Reports: Spread sheets Written reports Completion of proformas Completion of forms Verbal reports Government budget submission proformas
G	All	Work is conducted observing relevant anti-discrimination policies, procedures and regulations

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice

using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency working realistic environment and a variety of conditions.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to the managing of gas industry physical resources.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section 1 of this volume and form an integral part of the Range Statement of this unit:

Physical resources

Acquisition and allocation of resources

Organisational policy and procedures may vary between sectors and organisations

Budget formats

Budget

Relevant authorities and other stakeholders

Expected lifetime of equipment

Records and Reports (6)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the planning and commissioning of the data acquisition and metering requirements of a natural or liquefied petroleum gas system. This competency standard refers to Gas Systems; Data acquisition; Resources; Legislative requirements; Relevant authorities and other stakeholders; Relevant documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Plan data acquisition and metering requirements of a gas system	1.1 OHS principles and practices and environmental and sustainable energy procedures which may influence the systems are reviewed and determined
		1.2 Purpose of the data acquisition and metering requirements of a gas system are established after data is analysed and expected outcomes of the work are confirmed with the appropriate persons
		1.3 Properties and characteristics of the gas to be measured are identified as per established procedures on the development of a data acquisition and metering requirements system
		1.4 Design capacity of gas system is identified
		1.5 Back up systems are specified
		1.6 Legislative requirements are identified
		1.7 Data storage and communication systems are specified
		1.8 Work is prioritised and sequenced for the most efficient outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures
		1.9 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work

ELEMENT	PERFORMANCE CRITERIA	
	1.10	Risk control measures are identified, prioritised and evaluated against the work schedule
2 Determine specific equipment and maintenance requirements	2.1	Systems modelling is used to evaluate alternative proposals as per established procedures
	2.2	Maintenance activities are designed and scheduled according to requirements and established procedures
	2.3	OHS and sustainable energy principles, functionality and practices to reduce the incidents of accidents and minimise waste are incorporated into the project in accordance with requirements and established procedures
	2.4	Technical advice is given to hazards, assessed risks and control measures so that monitoring can be undertaken and appropriate authorities consulted, where necessary, in accordance with requirements and established procedures
	2.5	Essential Knowledge and Associated Skills are applied to analyse specific data and compared with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.6	Maintenance recording system is developed incorporating organisation initiatives as per established procedures
	2.7	Metering equipment is selected to meet performance specifications and is optimally located in the system
	2.8	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.9	Quality of work is monitored against personal performance agreement and established organisational and professional standards

ELEMENT	PERFORMANCE CRITERIA	
3 Commission data collection and metering system	3.1	Final inspections of the metering and data acquisition plan is undertaken to ensure they comply with all requirements and include all specifications and documentations needed to complete the project
	3.2	Appropriate resources are obtained and scheduled according to the plan
	3.3	Company OHS policies and procedures are followed and the metering and data acquisition system is commissioned in accordance with the plan
	3.4	Appropriate persons are notified of completion and reports
	3.5	Reports are submitted to relevant persons for approval
	3.6	Approved copies of metering and data acquisition plan is issued and records are updated in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for planning and implement the data acquisition and metering requirements of a gas system.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G117 Data acquisition and metering requirements B

G 4.1.5 3SCADA system operation

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 5.1.6 Technical knowledge for Gas Industry managers

Evidence shall show an understanding and application of the technical knowledge required of Gas Industry managers, indicated by the following:

- development of organisational operational strategies as required
- understanding maintenance philosophies
- engineering principles
- risk management in a Gas Industry environment
- principles of planning including project management planning.

G 6.1.1 Understand and utilise concepts and skills for Gas Industry supervisors

Evidence shall show an understanding and interpretation of the concepts and skills required of Gas Industry supervisors to undertake activities, indicated by the following:

- applicable mathematical techniques and principles to enable production of relevant supervisory level calculations, data processing requirements and reports
- engineering principles and operating principles of pipeline systems
- understanding of safe design principles
- appropriate environmental requirements
- correctly read, analyse, interpret and record data
- third-party service location methods
- construction principles and safety
- applicable gas chemistry, properties and characteristics.

G 6.1.2 Understand and utilise information for Gas Industry supervisors

Evidence shall show an understanding of the requirements to undertake supervision/management in a Gas Industry environment, indicated by the following:

- principles of gas flow and gas metering
- organisational standard operating procedures
- site specific safety legislation and safety requirements
    - overview of Occupational Health and Safety including systematic approaches to OHS
    - health and safety stakeholders (union, employers, workers, contractors and managers) hazards
    - risk assessment and control relating to areas such as:
- electrical safety
- vibration
- outdoor work
- stress
- equipment, tools and plant
- noise
- chemicals and substances
- manual handling
- confined spaces
    - Stakeholder Relations
- managing contractors, industry awards, and employee entitlements
- understanding government and business relations
- employee associations
- industry associations
- awards and agreements
- collective bargaining and individual agreements
- conciliation, arbitration, mediation and negotiation
- coordinate the work of others
- adhere to OHS legislation and regulations
    - understanding government and the development of statute and common law
    - principles of Occupational Health and Safety and risk management
    - Occupational Health and Safety legislation and regulations
- observe environmental and legislative requirements
    - understanding government and the development of statute and common law
    - principles of Occupational Health and Safety

- environmental and other legislative requirements
- apply applicable permit to work system including types of permit limitations
  - understanding the permit to work system
  - identifying the limitations in a permit to work system
- develop and review standard operating procedures
- review and report on completed work
- employ correct waste management procedures
  - appropriate waste management procedures
  - organisational requirements for waste management
  - consequences of not managing waste effectively
- knowledge of native title issues and legislation
- analyse relevant workplace data eg incident and environmental monitoring to evaluate the effectiveness of the OHS management system.

G 6.1.3 Commission/decommission pipelines and cathodic protection principles for Gas Industry supervisors

Evidence shall show an understanding of commission/decommissioning and cathodic protection principles required of Gas Industry supervisors, indicated by the following:

- commissioning and decommissioning procedures for pipeline and gas industry facilities and infrastructure
- cathodic protection systems
- plan and design commissioning procedures
- plan and design cathodic protection commissioning procedures

G 6.1.4 Communicate effectively

Evidence shall show an understanding and utilisation of technology for communication in a Gas Industry environment, indicated by the following:

- effective communication for Gas Industry managers and supervisors
  - motives for communication
  - communication networks: who communicates with whom
  - verbal and non-verbal communication
  - choosing the medium and the flow of a message
  - blocks to effective communication
- analyse and interpret recorded data, review and report
- use information technology for communication

- understanding how to use information technology
- effective use of email, internet and other communication mediums.

G 6.1.7 Understand chemical and physical behaviours of gas

Evidence shall show an understanding of the chemical and physical behaviour of gases, and their effects in a gas system indicated by the following:

- chemical and physical behaviours of natural and liquefied petroleum gas
  - understanding of basic chemistry and physics of gases
  - the chemical makeup and properties of natural gas and LPG
  - dangers of working with natural gas and LPG and how to manage natural gas and LPG
- transportation of LPG and natural gas
  - understanding of issues associated with transporting of natural gas and LPG
- LPG supply logistics
  - correct filling procedures for LPG
  - identifying abnormal cylinder conditions
  - correct storage of LPG.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the

normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 5	Gas systems: Custody Transfer Stations Tanker transfer Decantation Tempered Liquid Petroleum systems Field or District Regulators LPG systems Meters and regulators Transmission and distribution systems

B	At least 4	Data acquisition: Temperature Pressure and flow rates from regulator or custody transfer stations Water bath heater operation (water temperature, pilot light and main burner operation) Faulty equipment (over pressure and under pressure, slam shut operation and filter problems) Pipeline ruptures Security system monitoring and pressure and volume data for 'balancing the system'
C	At least 4	Resources: Relevant persons Relevant authorities Company standard operating procedures Materials Equipment manuals/specifications Personal protective equipment Fire safety systems and training resources
D	All	Legislative requirements: Occupational Health and Safety legislation Relevant Government Acts, regulations and codes of practice Australian standards and

		codes of practice Environmental legislative requirements
E	At least 3	Relevant authorities: Government authorities Landowners Stakeholders Local councils Fire authorities Other utilities
F	At least 8	Relevant documentation: Specifications, drawings and plans Manufacturer's specifications Company standard operational and safety procedures Company management plans and policies Work permits Hot work permits Company forms and files Acts and regulations Contracts Recording/reporting Maintenance activities Inspection and incident reports
G	All	Commission/decommissio n pipelines and cathodic protection principles for Gas Industry supervisors Communication for Gas Industry supervisors Chemical and physical

		behaviours of gas
H	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in planning and implementing the data acquisition and metering requirements of a gas system.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working

practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications

UEGNSG119B Manage workplace risk

UEGNSG120B Manage gas system environmental compliance

UEGNSG121B Prepare and design specifications for a gas system

UEGNSG115B Manage gas systems projects

UEGNSG122B Manage a customer service gas business unit

UEGNSG123B Manage financial resources

UEGNSG116B Manage physical resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to planning and implementing the data acquisition and metering requirements of a gas system.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Gas Systems

Data acquisition

Resources

Legislative requirements

Relevant authorities and other stakeholders

Relevant documentation (6)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the selection and commissioning of equipment for pressure and temperature control in a natural gas or LPG system. This competency standard refers to Gas Systems; Gas Characteristics; Relevant resources; Legislative requirements; Relevant authorities and other stakeholders; Relevant documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Determine performance parameters for the system to be controlled	1.1 OHS principles and practices and environmental and sustainable energy procedures which may influence the systems are reviewed and determined
		1.2 Purpose of the performance parameters for the system to be controlled are established after data is analysed and expected outcomes of the work is confirmed with the appropriate personnel
		1.3 Organisational established procedures on policies and specifications for performance parameters for the system to be controlled are obtained or established with the appropriate personnel
		1.4 Properties and gas characteristics are identified and discussed with appropriate personnel
		1.5 Relevant documentation, standards and legislative requirements are analysed
		1.6 Growth requirements are factored into the performance requirements
		1.7 Work roles and tasks are allocated according to requirements and individual's competencies
		1.8 Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures
		1.9 Liaison and communication issues with authorised personnel, authorities, clients and

ELEMENT	PERFORMANCE CRITERIA	
		land owners are resolved and activities coordinated to carry out work
	1.10	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.11	Site requirements are identified and relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
2 Plan and oversee the commissioning of the equipment	2.1	Equipment and materials are selected to meet performance, budgetary and OHS requirements
	2.2	A commissioning plan and testing criteria are developed and implemented
	2.3	All relevant resources are scheduled
	2.4	All relevant supply authorities and statutory bodies are consulted and notified
	2.5	A performance monitoring plan is developed
	2.6	All relevant documentation is completed and authorised by the relevant authorities
	2.7	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.8	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.9	Quality of work is monitored against personal performance agreement and established organisational and professional standards

ELEMENT	PERFORMANCE CRITERIA	
3 Validate system performance	3.1	Final inspections to validate system performance are undertaken to ensure they comply with all requirements and include all specifications and documentation needed to complete the project
	3.2	System performance is reviewed to ensure performance of the system is within specifications
	3.3	System performance is reviewed to ensure balance is maintained with interconnected systems
	3.4	System performance is reviewed to ensure security of supply is within acceptable risk factors
	3.5	All reports and performance data are completed and lodged with the relevant authorities
	3.6	Appropriate personnel are notified of completion and reports and completion documents are finalised.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for selecting and commissioning equipment to meet pressure and temperature control specifications.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G118B Pressure and temperature control

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand

Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 6.1.1 Understand and utilise concepts and skills for Gas Industry supervisors

Evidence shall show an understanding and interpretation of the concepts and skills required of Gas Industry supervisors to undertake activities, indicated by the following:

- applicable mathematical techniques and principles to enable production of relevant supervisory level calculations, data processing requirements and reports
- engineering principles and operating principles of pipeline systems
- understanding of safe design principles
- appropriate environmental requirements
- correctly read, analyse, interpret and record data
- third-party service location methods
- construction principles and safety
- applicable gas chemistry, properties and characteristics.

G 6.1.2 Understand and utilise information for Gas Industry supervisors

Evidence shall show an understanding of the requirements to undertake supervision/management in a Gas Industry environment, indicated by the following:

- principles of gas flow and gas metering
- organisational standard operating procedures
- site specific safety legislation and safety requirements
  - overview of Occupational Health and Safety including systematic approaches to OHS
  - health and safety stakeholders (union, employers, workers, contractors and managers) hazards
  - risk assessment and control relating to areas such as:
- electrical safety

- vibration
- outdoor work
- stress
- equipment, tools and plant
- noise
- chemicals and substances
- manual handling
- confined spaces
    - Stakeholder Relations
- managing contractors, industry awards, and employee entitlements
- understanding government and business relations
- employee associations
- industry associations
- awards and agreements
- collective bargaining and individual agreements
- conciliation, arbitration, mediation and negotiation
- coordinate the work of others
- adhere to OHS legislation and regulations
- understanding government and the development of statute and common law
- principles of Occupational Health and Safety and risk management
- Occupational Health and Safety legislation and regulations
- observe environmental and legislative requirements
- understanding government and the development of statute and common law
- principles of Occupational Health and Safety
- environmental and other legislative requirements
- apply applicable permit to work system including types of permit limitations
- understanding the permit to work system
- identifying the limitations in a permit to work system
- develop and review standard operating procedures
- review and report on completed work
- employ correct waste management procedures
- appropriate waste management procedures
- organisational requirements for waste management
- consequences of not managing waste effectively
- knowledge of native title issues and legislation

- analyse relevant workplace data eg incident and environmental monitoring to evaluate the effectiveness of the OHS management system.

G 6.1.3 Commission/decommission pipelines and cathodic protection principles for Gas Industry supervisors

Evidence shall show an understanding of commission/decommissioning and cathodic protection principles required of Gas Industry supervisors, indicated by the following:

- commissioning and decommissioning procedures for pipeline and gas industry facilities and infrastructure
- cathodic protection systems
- plan and design commissioning procedures
- plan and design cathodic protection commissioning procedures

G 6.1.4 Communicate effectively

Evidence shall show an understanding and utilisation of technology for communication in a Gas Industry environment, indicated by the following:

- effective communication for Gas Industry managers and supervisors
  - motives for communication
  - communication networks: who communicates with whom
  - verbal and non-verbal communication
  - choosing the medium and the flow of a message
  - blocks to effective communication
- analyse and interpret recorded data, review and report
- use information technology for communication
  - understanding how to use information technology
  - effective use of email, internet and other communication mediums.

G 6.1.5 Optimise performance of Pressure and temperature control equipment

Evidence shall show an understanding of the requirements of pressure and temperature control equipment at a supervision level in a Gas Industry environment, indicated by the following:

- operating principles of pressure and temperature control equipment and their performance characteristics including but not limited to:

- Electronic control equipment
- Pneumatic control equipment

- Designing and modification to pressure and temperature equipment

G 6.1.6 Plan and carry out project management

Evidence shall show an understanding and application of the requirements to undertake project management in a Gas Industry environment, indicated by the following:

- project management and costing
  - project planning processes
  - determining project costing
  - planning for events and milestones
  - determining inputs
  - producing outputs to a plan
- planning theory and its processes
  - the importance of planning
  - the planning process
  - organisational goals and objectives
  - strategic planning
  - operational planning
  - forecasting
- prioritise techniques
  - organising/prioritise work flows
  - time management
  - stress management
- managing persons and resources including consultants
  - understanding people
  - understanding behaviour
  - perceiving the causes of behaviour
  - defining leadership
- manage meetings
  - understanding organisational communication
  - formal and informal organisational communication
  - managing meetings and recording minutes
  - drafting minutes
- prepare reports
  - planning the writing process
  - developing the scope and outline of a document/report
  - drafting documents/reports utilising a plan and

outline
- finalising documents/reports
- facilitate contracts and employment
  - parliament, government and the law
  - statute law
  - common law
  - contracts and contract law
  - employment law
- understanding of sound business principles and performance measures
  - understanding organisational behaviour
  - business fundamentals
  - establishing the principles of performance management
  - establishing performance measures
- understanding of competition policy, budgets and product pricing and tariffs
  - understanding of government business relations in the Gas Industry
  - how tariffs are determined
  - working within legislative guidelines in tariffs and pricing.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the

normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 2	Gas systems: Transmission and distribution pipelines Storage facilities Underground storage LPG installations Tanker and storage facilities
B	At least 2	Gas characteristics: Temperature Chemical composition Pressures and pressure

		reduction Reserve quantities LPG evaporation rates
C	At least 4	Relevant resources: Relevant personnel Materials and equipment Personal protective equipment Company standard operating procedures Equipment manuals Training resources
D	All	Legislative requirements: Occupational Health and Safety, government acts and regulations Australian standards and codes of practice Environmental legislative requirements
E	At least 3	Relevant requirements: Government authorities Landowners/Traditional land owners Stakeholders Local councils Fire authorities Other utilities Statutory authorities
F	At least 5	Relevant documentation: Contracts Specifications Drawings/plans Manufacturer's

		specifications Work permits Company standard operation and safety procedures Company management plans and policies Company forms and files Laws and codes of practice
G	All	Interpret Gas Industry drawings Understand the commission/decommission pipelines and cathodic protection principles Communicate to Gas Industry supervisors Understand pressure and temperature control equipment Project manage
H	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in selecting and commissioning equipment to meet pressure and temperature control specifications.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

UEGNSG119B Manage workplace risk

UEGNSG120B Manage gas system environmental compliance

UEGNSG121B Prepare and design specifications for a gas system

UEGNSG115B Manage gas systems projects

UEGNSG122B Manage a customer service gas business unit

UEGNSG123B Manage financial resources

UEGNSG116B Manage physical resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to selecting and commissioning equipment to meet pressure and temperature control specifications.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Gas Systems

Gas Characteristics

Relevant resources

Legislative requirements

Relevant authorities and other stakeholders

Relevant documentation (6)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG119B Manage workplace risk in a gas industry facility

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the managing of risk management systems and practices in the workplace. This competency standard refers to Risk Management principles; Risk Management Plans; Appropriate persons; Authorisation; Risks; Hazards; Control measures; Relevant documentation; Legislative requirements; Emergency exercises; Emergency appliances; Contingency plans and Safety devices.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Manage the identification and development of a risk management system using risk management principles	1.1 OHS principles and practices and Environmental and Sustainable Energy procedures which may influence the systems are reviewed and determined
		1.2 Purpose of the risk management plan is established after data is analysed and expected outcomes are confirmed with the appropriate persons
		1.3 Organisational established procedures on policies and specifications for the development of a risk management plan are obtained
		1.4 Work roles and tasks are allocated according to requirements and individual's competencies
		1.5 Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures
		1.6 Liaison and communication issues with authorised persons, authorities and clients are resolved and activities coordinated to carry out work

ELEMENT	PERFORMANCE CRITERIA	
2 Manage the minimisation of risks in the work environment for specific projects	2.1	Decisions regarding the risk management plan are made on the basis of safety and effective outcomes according to requirements and established procedures
	2.2	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.3	Risk management plan and critical incident report responsibilities are confirmed and managed for specific project activities to minimise risk
	2.4	Project schedule to establish time frame, work activities and procurement of materials is approved
	2.5	Procedures and work instructions are received and approved for project activities according to the risk management plan
	2.6	Appropriate persons are counselled, where appropriate, for compliance with company risk management policies, standard operating procedures and relevant documentation
	2.7	Appropriate persons are assessed to ensure they comply with the company/site-specific procedures, health, safety and environmental requirements
	2.8	Project compliance to risk management plan is evaluated and reported and approved in accordance with company policies, procedures and relevant documentation processes
3 Manage and review critical incident contingency plans	3.1	Critical incident report is received for evaluation to determine appropriate remedial measures according to company policies, procedures and relevant documentation processes are completed
	3.2	Appropriate persons are authorised for training and qualified to the type of emergency exercises

ELEMENT	PERFORMANCE CRITERIA	
		required according to company policies, procedures and relevant documentation processes are completed
	3.3	Emergency appliances are authorised for selection and secured appropriate to the type of emergency exercise required according to company policies and procedures
	3.4	Emergency appliances and safety devices are authorised for testing according to company standard operating policies and procedures, legislative requirements and manufacturers specifications
	3.5	Emergency exercises are authorised and conducted according to developed contingency plans and monitored for performance and recorded accordingly
	3.6	Final inspections of the risk management plan are undertaken to ensure they comply with all requirements and include all specifications and documentations needed to complete the project
	3.7	Risk management plan report is submitted to relevant persons for approval

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for managing workplace risk in a Gas Industry facility.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G119B Workplace risk

G 5.1.1 Supervise Gas Industry operations

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
  - risk assessment, risk control and risk control measures
  - hierarchy of control
  - personal protective equipment — strengths and weaknesses
  - identifying hazards and their consequences
  - identifying hazards, assessing associated risks and implementing appropriate control measures
  - developing hazard checklists
  - reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry environment, indicated by the following:

- emergency management concepts and principles:
  - auditing and planning
  - systems analysis
  - policies and procedures for non-employees and contractors
  - types of emergencies
  - dealing with an emergency
  - elements of an emergency plan
  - employee assistance programs.
- Develop an emergency management plan which includes:
  - First Aid and welfare
  - recovery and post recovery plans
  - legislative requirements
  - interaction with authorities/emergency services

- communication with key stakeholders
- initial response/assessment and make safe

G 5.1.4 Management techniques for utilities industry supervision

Evidence shall show an understanding and application of management techniques required of Gas Industry operators in a supervisory capacity, indicated by the following:

- industrial awards and employee entitlements
  - industrial conflict
  - industrial relations issues
  - understanding industrial awards and employee entitlements
  - individual and collective bargaining and agreements
- characteristics of ethnic and cultural groups
- Applicable environmental requirements
- relevant organisational standard operating procedures, site specific safety legislation and requirements
- correct waste management procedures
- application of OHS management in relation to other organisational management systems.
- Related organisational policies and procedures such as business planning, training, purchasing.

G 6.1.1 Understand and utilise concepts and skills for Gas Industry supervisors

Evidence shall show an understanding and interpretation of the concepts and skills required of Gas Industry supervisors to undertake activities, indicated by the following:

- applicable mathematical techniques and principles to enable production of relevant supervisory level calculations, data processing requirements and reports
- engineering principles and operating principles of pipeline systems
- understanding of safe design principles
- appropriate environmental requirements
- correctly read, analyse, interpret and record data
- third-party service location methods
- construction principles and safety
- applicable gas chemistry, properties and characteristics.

G 6.1.4 Communicate effectively

Evidence shall show an understanding and utilisation of technology for communication in a Gas Industry environment, indicated by the following:

- effective communication for Gas Industry managers and supervisors
  - motives for communication
  - communication networks: who communicates with whom
  - verbal and non-verbal communication
  - choosing the medium and the flow of a message
  - blocks to effective communication
- analyse and interpret recorded data, review and report
- use information technology for communication
  - understanding how to use information technology
  - effective use of email, internet and other communication mediums.

G 6.1.6 Plan and carry out project management

Evidence shall show an understanding and application of the requirements to undertake project management in a Gas Industry environment, indicated by the following:

- project management and costing
  - project planning processes
  - determining project costing
  - planning for events and milestones
  - determining inputs
  - producing outputs to a plan
- planning theory and its processes
  - the importance of planning
  - the planning process
  - organisational goals and objectives
  - strategic planning
  - operational planning
  - forecasting
- prioritise techniques
  - organising/prioritise work flows
  - time management
  - stress management
- managing persons and resources including consultants
  - understanding people
  - understanding behaviour
  - perceiving the causes of behaviour
  - defining leadership
- manage meetings

- understanding organisational communication
- formal and informal organisational communication
- managing meetings and recording minutes
- drafting minutes

- prepare reports
  - planning the writing process
  - developing the scope and outline of a document/report
  - drafting documents/reports utilising a plan and outline
  - finalising documents/reports
- facilitate contracts and employment
  - parliament, government and the law
  - statute law
  - common law
  - contracts and contract law
  - employment law
- understanding of sound business principles and performance measures
  - understanding organisational behaviour
  - business fundamentals
  - establishing the principles of performance management
  - establishing performance measures
- understanding of competition policy, budgets and product pricing and tariffs
  - understanding of government business relations in the Gas Industry
  - how tariffs are determined
  - working within legislative guidelines in tariffs and pricing.

G 6.1.7 Understand chemical and physical behaviours of gas

Evidence shall show an understanding of the chemical and physical behaviour of gases, and their effects in a gas system indicated by the following:

- chemical and physical behaviours of natural and liquefied petroleum gas
  - understanding of basic chemistry and physics of gases
  - the chemical makeup and properties of natural gas and LPG
  - dangers of working with natural gas and LPG and

how to manage natural gas and LPG
- transportation of LPG and natural gas
  - understanding of issues associated with transporting of natural gas and LPG
- LPG supply logistics
  - correct filling procedures for LPG
  - identifying abnormal cylinder conditions
  - correct storage of LPG.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence

need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Risk Management principles: Six categories of exposures (personal, property, financial, environmental, product and administrative, legislative compliance, Occupational Health and Safety, procedure systems, vicarious liability, professional liability.
B	At least 4	Risk Management Plans: Identification of hazards assessment of risks

		Identification of control measures Implementation of control measures and review of control measures Reference to conduct and reporting of hazard and operability studies (HAZOPS) and hazard analysis studies (HAZANS) for critical incidents Recognition of six categories of exposures (see range statement for further information) Identification and use of Manufacturer's specifications and Australian/New Zealand and ISO standards Contingency plans for response to critical incidents
C	All	Risks (assessment for): Injury death, illness, damage to plant/equipment, financial loss, non-compliance with legislation, damage to products
D	All	Hazards: Confined spaces, gas, electricity, manual handling, noise, plant and equipment, infected blood, chemicals, temperature, lighting, radiation.
E	All	Control measures: Elimination of hazards, work procedures, Standard Operating Procedures,

		Personal Protective Equipment, fire safety, plant and equipment isolation, selection and training of appropriate persons, communications with appropriate persons, supervision of appropriate persons, management of control measures
F	All	Relevant documentation: Australian/New Zealand and ISO Standards; company risk management policy; codes of practice; standard operating procedures; Australian Dangerous Goods; trade practices; Occupational Health and Safety reporting requirements; injury reporting; claims management; contractor control; hazardous substances management
G	At least 2	Emergency exercises: Desktop and in-field simulation emergency exercises (involving fire; explosion; vapour/liquid leak; excavated/ruptured pipeline) LPG road/rail accidents Loss of supply Lost or unaccounted for persons Medical emergencies
H	All	Emergency appliances: Emergency trucks/trailers Emergency plant (compressors, cranes,

		welding equipment etc) Breathing apparatus Fire fighting equipment
I	All	Contingency plans: Emergency responses to a range of abnormal operating conditions Plans for responses to critical incidents Prioritise proposed responses
J	All	Knowledge of problem solving, decision making and conflict resolution Emergency management Communication for Gas Industry supervisors Ability to apply project management techniques Understanding of chemical and physical behaviours of gas
K	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in managing workplace risk in a Gas Industry facility.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG117B Plan and Implement the data acquisition and metering requirements of a gas system

UEGNSG118B	Select and commission equipment to meet pressure and temperature control specifications
UEGNSG120B	Manage gas system environmental compliance
UEGNSG121B	Prepare and design specifications for a gas system
UEGNSG115B	Manage gas systems projects
UEGNSG122B	Manage a customer service gas business unit
UEGNSG123B	Manage financial resources
UEGNSG116B	Manage physical resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to managing workplace risk in Gas Industry facility.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Risk Management principles

Risk Management Plans

Appropriate persons (6)

Authorisation

Risks

Hazards (6)

Control measures

Relevant documentation (6)

Legislative requirements (5)

Emergency exercises

Emergency appliances

Contingency plans

Safety devices include

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG120B Manage gas system environmental compliance

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the skills and knowledge required to ensure that all gas installations and assets comply with legal, environmental, Occupational Health and Safety and community standards. This competency standard refers to Gas systems; Legislative compliance; Environmental issues; Safety issues and Relevant personnel.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Identify and document environmental issues for a proposed gas system	1.1 OHS principles and practices and Environmental and Sustainable Energy procedures which may influence the system are reviewed and determined
		1.2 Legislative requirements are identified and impact assessments are conducted or arranged as appropriate according to established procedures
		1.3 Organisational established procedures on policies and specifications for the work are obtained or established with the appropriate personnel
		1.4 Testing parameters are established from organisational established procedures on policies and specifications
		1.5 Testing procedures are discussed with persons in order to ascertain the project brief
		1.6 Equipment, tools and personal protective equipment are selected and coordinated based on specified requirements and established procedures
		1.7 Work roles and tasks are allocated according to requirements and individual's competencies
		1.8 Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.9	Liaison and communication issues with authorised personnel, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.11	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
2 Facilitate negotiations for compliance with all Regulations, Standards and Codes of Practice	2.1	All internal and external stakeholders are identified and relevant and qualified persons are consulted on compliance needs
	2.2	Negotiated decisions are made on the basis of safety and environmental compliance and effective outcomes according to requirements and established procedures
	2.3	Technical advice is given regarding hazards, assessed risks and control measures so that monitoring can be undertaken and appropriate authorities consulted, where necessary, in accordance with requirements and established procedures
	2.4	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.5	Work teams are arranged to ensure planned goals are met according to established procedures
	2.6	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.7	Quality of work is monitored against personal performance agreement and established

ELEMENT	PERFORMANCE CRITERIA	
		organisational and professional standards
	2.8	Strategic plans are developed incorporating organisation initiatives as per established procedures
3 Review environmental and OHS management plans for a gas system	3.1	Environmental and OHS risks and their likely impacts for a gas system on the installation assets and to communities are identified and analysed to determine control options
	3.2	Options for addressing potential impacts are identified, proposed and costed
	3.3	Requisite environmental and OHS management strategies are determined and recommendations made according to company policies, procedures and processes
	3.4	Requisite environmental and OHS management strategies are determined and recommendations made according to company policies, procedures and processes
	3.5	Final inspections of the work are undertaken to ensure they comply with all requirements and include all specifications and documentations needed to complete the project
	3.6	Persons are notified of completion and reports and completion documents are finalised
	3.7	Reports and completion documents are submitted to relevant personnel and organisations for approval and where applicable, statutory or regulatory approval
	3.8	Approved copies of documents are issued and records are updated in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for managing gas system environmental compliance.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G120B Gas system environmental compliance

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 5.1.1 Supervise Gas Industry operations

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
  - risk assessment, risk control and risk control measures
  - hierarchy of control
  - personal protective equipment — strengths and weaknesses
  - identifying hazards and their consequences
  - identifying hazards, assessing associated risks and

implementing appropriate control measures
    - developing hazard checklists
    - reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry environment, indicated by the following:

- emergency management concepts and principles:
    - auditing and planning
    - systems analysis
    - policies and procedures for non-employees and contractors
    - types of emergencies
    - dealing with an emergency
    - elements of an emergency plan
    - employee assistance programs.
- Develop an emergency management plan which includes:
    - First Aid and welfare
    - recovery and post recovery plans
    - legislative requirements
    - interaction with authorities/emergency services
    - communication with key stakeholders
    - initial response/assessment and make safe

G 6.1.1 Understand and utilise concepts and skills for Gas Industry supervisors

Evidence shall show an understanding and interpretation of the concepts and skills required of Gas Industry supervisors to undertake activities, indicated by the following:

- applicable mathematical techniques and principles to enable production of relevant supervisory level calculations, data processing requirements and reports

- engineering principles and operating principles of pipeline systems
- understanding of safe design principles
- appropriate environmental requirements
- correctly read, analyse, interpret and record data
- third-party service location methods
- construction principles and safety
- applicable gas chemistry, properties and characteristics.

G 6.1.2 Understand and utilise information for Gas Industry supervisors

Evidence shall show an understanding of the requirements to undertake supervision/management in a Gas Industry environment, indicated by the following:

- principles of gas flow and gas metering
- organisational standard operating procedures
- site specific safety legislation and safety requirements
  - overview of Occupational Health and Safety including systematic approaches to OHS
  - health and safety stakeholders (union, employers, workers, contractors and managers) hazards
  - risk assessment and control relating to areas such as:
- electrical safety
- vibration
- outdoor work
- stress
- equipment, tools and plant
- noise
- chemicals and substances
- manual handling
- confined spaces
  - Stakeholder Relations
- managing contractors, industry awards, and employee entitlements
- understanding government and business relations
- employee associations
- industry associations
- awards and agreements
- collective bargaining and individual agreements
- conciliation, arbitration, mediation and negotiation
- coordinate the work of others
- adhere to OHS legislation and regulations

- understanding government and the development of statute and common law
- principles of Occupational Health and Safety and risk management
- Occupational Health and Safety legislation and regulations

- observe environmental and legislative requirements
  - understanding government and the development of statute and common law
  - principles of Occupational Health and Safety
  - environmental and other legislative requirements
- apply applicable permit to work system including types of permit limitations
  - understanding the permit to work system
  - identifying the limitations in a permit to work system
- develop and review standard operating procedures
- review and report on completed work
- employ correct waste management procedures
  - appropriate waste management procedures
  - organisational requirements for waste management
  - consequences of not managing waste effectively
- knowledge of native title issues and legislation
- analyse relevant workplace data eg incident and environmental monitoring to evaluate the effectiveness of the OHS management system.

G 6.1.6 Plan and carry out project management

Evidence shall show an understanding and application of the requirements to undertake project management in a Gas Industry environment, indicated by the following:

- project management and costing
  - project planning processes
  - determining project costing
  - planning for events and milestones
  - determining inputs
  - producing outputs to a plan
- planning theory and its processes
  - the importance of planning
  - the planning process
  - organisational goals and objectives
  - strategic planning
  - operational planning

    - forecasting
- prioritise techniques
    - organising/prioritise work flows
    - time management
    - stress management
- managing persons and resources including consultants
    - understanding people
    - understanding behaviour
    - perceiving the causes of behaviour
    - defining leadership
- manage meetings
    - understanding organisational communication
    - formal and informal organisational communication
    - managing meetings and recording minutes
    - drafting minutes
- prepare reports
    - planning the writing process
    - developing the scope and outline of a document/report
    - drafting documents/reports utilising a plan and outline
    - finalising documents/reports
- facilitate contracts and employment
    - parliament, government and the law
    - statute law
    - common law
    - contracts and contract law
    - employment law
- understanding of sound business principles and performance measures
    - understanding organisational behaviour
    - business fundamentals
    - establishing the principles of performance management
    - establishing performance measures
- understanding of competition policy, budgets and product pricing and tariffs
    - understanding of government business relations in the Gas Industry
    - how tariffs are determined
    - working within legislative guidelines in tariffs and

pricing.

G 6.1.7 Understand chemical and physical behaviours of gas

Evidence shall show an understanding of the chemical and physical behaviour of gases, and their effects in a gas system indicated by the following:

- chemical and physical behaviours of natural and liquefied petroleum gas
  - understanding of basic chemistry and physics of gases
  - the chemical makeup and properties of natural gas and LPG
  - dangers of working with natural gas and LPG and how to manage natural gas and LPG
- transportation of LPG and natural gas
  - understanding of issues associated with transporting of natural gas and LPG
- LPG supply logistics
  - correct filling procedures for LPG
  - identifying abnormal cylinder conditions
  - correct storage of LPG.

G 6.1.8 Manage environmental and culturally sensitive issues

Evidence shall show an understanding and implementation of the effective management of environmental and culturally sensitive issues in a Gas Industry environment, indicated by the following:

- understanding applicable environmental legislative compliance and regulation
  - understanding government and laws
  - penalties
  - acting in compliance with laws
- understanding of cultural and community standards and their sensitivities
  - communities and their interaction with government and business in Australia
  - cultural issues in Australia
  - using ethical behaviour in approaching cultural issues
  - anti discrimination legislation in Australia
  - native title issues in Australia
- understanding the impacts of gas installations and infrastructure on the environment and its impacts to native title
  - government and business environmental obligations

- Australian environmental legislation and its affect on industry
- the impact of construction of assets to the Australian environment
- native title considerations for Gas Industry asset owners

- managing sensitive negotiations and communicating with a wide variety of stakeholders
  - understanding stakeholder politics in Australia
  - negotiation and bargaining
  - conciliation and arbitration
  - understanding of sensitive issues and the implications for negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being

assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	Any 1	Gas systems Natural gas transmission, distribution and storage Liquefied petroleum gas tanker and ship transport Storage and processing terminals and distribution systems
B	All	Legislative compliance Occupational Health and Safety legislation Relevant Government Acts, regulations and codes

		of practice Australian Standards and Codes of Practice Environmental legislative requirements
C	All	Environmental issues; Political, legal, community and aesthetic impact of installations
D	All	Safety issues Occupational Health and Safety operatives Ongoing maintenance of facilities Emergency plans Safety cases and environmental impact assessments for major hazardous facilities (MHFs)
E	At least 6	Relevant personnel: Managers Other supervisors Inter-company departments Other utilities Council representatives Producers, transporters/shippers Consultants Government bodies/agencies Refinery personnel Customers Land owners/Traditional land owners
F	All	Relevant authorities:

		Government authorities Land owners both current and traditional Local councils Land management groups Other utilities In-house quality control groups and management
G	All	Interpreting Gas Industry drawings Understanding emergency management Ability to apply project management techniques Understanding chemical and physical behaviours of gas Managing environmental and cultural sensitive issues
H	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in managing gas system environmental compliance.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

UEGNSG118B	Select and commission equipment to meet pressure and temperature control specifications
UEGNSG119B	Manage workplace risk
UEGNSG121B	Prepare and design specifications for a gas system
UEGNSG115B	Manage gas system projects
UEGNSG122B	Manage a customer service gas business unit
UEGNSG123B	Manage financial resources
UEGNSG116B	Manage physical resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to basic use of managing gas system environmental compliance.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Gas systems

Legislative compliance

Environmental issues

Safety issues

Relevant personnel

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG121B Prepare safe design specifications of a gas system

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the requirements to identify safe systems design specifications based on the required Performance Criteria for a gas system/installation, covering natural or liquefied petroleum gas. The competency standard refers to Gas systems; Environmental hazards; System logistics; Resources; Relevant Documentation; Legislative compliance; Relevant authorities.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare input and output Performance Criteria for the system	1.1	OHS principles and practices and Environmental and Sustainable Energy procedures which may influence the systems are reviewed and determined
	1.2	Proposed system usage is analysed and technical requirements of the system are investigated and expected outcomes of the work are confirmed with the appropriate persons
	1.3	Organisational established procedures on policies and specifications for the job are obtained or established with the appropriate persons
	1.4	Testing parameters are established from organisational established procedures on policies and specifications
	1.5	Testing procedures are discussed with appropriate persons in order to ascertain the project brief
	1.6	Equipment, tools and personal protective equipment are selected and coordinated based on specified requirements and established procedures
	1.7	Work roles and tasks are allocated according to requirements and individual's competencies
	1.8	Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.11	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
2 Assess the impact of the system on the external environment	2.1	System logistics are determined and impact on interconnected systems is assessed
	2.2	OHS and sustainable energy principles, functionality and practices to reduce the incidents of accidents and minimise waste are incorporated into the project in accordance with requirements and established procedures
	2.3	Decisions are made on the basis of safety and effective outcomes according to requirements and established procedures
	2.4	Mathematical models are used to analyse the effectiveness of the finished product as per requirements and established procedures
	2.5	Technical advice is given to hazards, assessed risks and control measures so that monitoring can be undertaken and appropriate authorities consulted, where necessary, in accordance with requirements and established procedures
	2.6	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.7	Testing is undertaken according to requirements and established procedures
	2.8	Work teams are arranged to ensure planned goals are met according to established

ELEMENT	PERFORMANCE CRITERIA	
		procedures
	2.9	Solutions to non-routine problems are identified and actioned, using acquired Essential Knowledge and Associated Skills, according to requirements
	2.10	Quality of work is monitored against personal performance agreement and established organisational and professional standards
	2.11	Strategic plans are developed incorporating organisational initiatives as per established procedures
3 Identify options for the system and evaluate options and prepare specifications	3.1	Final inspections are undertaken to ensure they comply with all requirements and include all specifications and documentation needed to complete the project
	3.2	Design and construction resources are identified and availability and price is determined and maintenance requirements are documented
	3.3	Cost benefit analysis is prepared and evaluation criteria are determined, any shortfalls in recommended option are justified and all compliance requirements are met
	3.4	Appropriate persons are notified of completion and reports and completion documents are finalised.
	3.5	Reports and completion documents are submitted to relevant persons for approval and where applicable, statutory or regulatory approval
	3.6	Approved copies of documents are issued and records are updated in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for preparing design specifications of a gas system.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G121B Gas system design specifications

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 5.1.1 Supervise Gas Industry operations

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
  - risk assessment, risk control and risk control measures
  - hierarchy of control
  - personal protective equipment — strengths and weaknesses
  - identifying hazards and their consequences
  - identifying hazards, assessing associated risks and

implementing appropriate control measures
    - developing hazard checklists
    - reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry environment, indicated by the following:

- emergency management concepts and principles:
    - auditing and planning
    - systems analysis
    - policies and procedures for non-employees and contractors
    - types of emergencies
    - dealing with an emergency
    - elements of an emergency plan
    - employee assistance programs.
- Develop an emergency management plan which includes:
    - First Aid and welfare
    - recovery and post recovery plans
    - legislative requirements
    - interaction with authorities/emergency services
    - communication with key stakeholders
    - initial response/assessment and make safe

G 6.1.1 Understand and utilise concepts and skills for Gas Industry supervisors

Evidence shall show an understanding and interpretation of the concepts and skills required of Gas Industry supervisors to undertake activities, indicated by the following:

- applicable mathematical techniques and principles to enable production of relevant supervisory level calculations, data processing requirements and reports

- engineering principles and operating principles of pipeline systems
- understanding of safe design principles
- appropriate environmental requirements
- correctly read, analyse, interpret and record data
- third-party service location methods
- construction principles and safety
- applicable gas chemistry, properties and characteristics.

G 6.1.2 Understand and utilise information for Gas Industry supervisors

Evidence shall show an understanding of the requirements to undertake supervision/management in a Gas Industry environment, indicated by the following:

- principles of gas flow and gas metering
- organisational standard operating procedures
- site specific safety legislation and safety requirements
  - overview of Occupational Health and Safety including systematic approaches to OHS
  - health and safety stakeholders (union, employers, workers, contractors and managers) hazards
  - risk assessment and control relating to areas such as:
- electrical safety
- vibration
- outdoor work
- stress
- equipment, tools and plant
- noise
- chemicals and substances
- manual handling
- confined spaces
  - Stakeholder Relations
- managing contractors, industry awards, and employee entitlements
- understanding government and business relations
- employee associations
- industry associations
- awards and agreements
- collective bargaining and individual agreements
- conciliation, arbitration, mediation and negotiation
- coordinate the work of others
- adhere to OHS legislation and regulations

- understanding government and the development of statute and common law
- principles of Occupational Health and Safety and risk management
- Occupational Health and Safety legislation and regulations

- observe environmental and legislative requirements
  - understanding government and the development of statute and common law
  - principles of Occupational Health and Safety
  - environmental and other legislative requirements
- apply applicable permit to work system including types of permit limitations
  - understanding the permit to work system
  - identifying the limitations in a permit to work system
- develop and review standard operating procedures
- review and report on completed work
- employ correct waste management procedures
  - appropriate waste management procedures
  - organisational requirements for waste management
  - consequences of not managing waste effectively
- knowledge of native title issues and legislation
- analyse relevant workplace data eg incident and environmental monitoring to evaluate the effectiveness of the OHS management system.

G 6.1.4 Communicate effectively

Evidence shall show an understanding and utilisation of technology for communication in a Gas Industry environment, indicated by the following:

- effective communication for Gas Industry managers and supervisors
  - motives for communication
  - communication networks: who communicates with whom
  - verbal and non-verbal communication
  - choosing the medium and the flow of a message
  - blocks to effective communication
- analyse and interpret recorded data, review and report
- use information technology for communication
  - understanding how to use information technology
  - effective use of email, internet and other

communication mediums.

G 6.1.6 Plan and carry out project management

Evidence shall show an understanding and application of the requirements to undertake project management in a Gas Industry environment, indicated by the following:

- project management and costing
  - project planning processes
  - determining project costing
  - planning for events and milestones
  - determining inputs
  - producing outputs to a plan
- planning theory and its processes
  - the importance of planning
  - the planning process
  - organisational goals and objectives
  - strategic planning
  - operational planning
  - forecasting
- prioritise techniques
  - organising/prioritise work flows
  - time management
  - stress management
- managing persons and resources including consultants
  - understanding people
  - understanding behaviour
  - perceiving the causes of behaviour
  - defining leadership
- manage meetings
  - understanding organisational communication
  - formal and informal organisational communication
  - managing meetings and recording minutes
  - drafting minutes
- prepare reports
  - planning the writing process
  - developing the scope and outline of a document/report
  - drafting documents/reports utilising a plan and outline
  - finalising documents/reports
- facilitate contracts and employment

- parliament, government and the law
- statute law
- common law
- contracts and contract law
- employment law

- understanding of sound business principles and performance measures
  - understanding organisational behaviour
  - business fundamentals
  - establishing the principles of performance management
  - establishing performance measures
- understanding of competition policy, budgets and product pricing and tariffs
  - understanding of government business relations in the Gas Industry
  - how tariffs are determined
  - working within legislative guidelines in tariffs and pricing.

G 6.1.7 Understand chemical and physical behaviours of gas

Evidence shall show an understanding of the chemical and physical behaviour of gases, and their effects in a gas system indicated by the following:

- chemical and physical behaviours of natural and liquefied petroleum gas
  - understanding of basic chemistry and physics of gases
  - the chemical makeup and properties of natural gas and LPG
  - dangers of working with natural gas and LPG and how to manage natural gas and LPG
- transportation of LPG and natural gas
  - understanding of issues associated with transporting of natural gas and LPG
- LPG supply logistics
  - correct filling procedures for LPG
  - identifying abnormal cylinder conditions
  - correct storage of LPG.

G 6.1.8 Manage environmental and culturally sensitive issues

Evidence shall show an understanding and implementation of the effective management of environmental and culturally sensitive issues in a Gas Industry environment, indicated by

the following:

- understanding applicable environmental legislative compliance and regulation
  - understanding government and laws
  - penalties
  - acting in compliance with laws
- understanding of cultural and community standards and their sensitivities
  - communities and their interaction with government and business in Australia
  - cultural issues in Australia
  - using ethical behaviour in approaching cultural issues
  - anti discrimination legislation in Australia
  - native title issues in Australia
- understanding the impacts of gas installations and infrastructure on the environment and its impacts to native title
  - government and business environmental obligations
  - Australian environmental legislation and its affect on industry
  - the impact of construction of assets to the Australian environment
  - native title considerations for Gas Industry asset owners
- managing sensitive negotiations and communicating with a wide variety of stakeholders
  - understanding stakeholder politics in Australia
  - negotiation and bargaining
  - conciliation and arbitration
  - understanding of sensitive issues and the implications for negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	At least first 3, Or, last 3	Gas systems: Natural gas systems Transmission and distribution pipelines Control systems Custody transfer stations Odorising plant Corrosion control Interconnecting system LPG storage greater than 50kL Underground storage Tankers and ships
B	At least 3	Environmental hazards: Hazards associated with LPG Hazards associated with natural gas Geological features Soil types Neighbouring plants Residential areas Separation distances and emission and contamination hazards
C	Any 1	System logistics: Land and sea transport routes and equipment Transmission and distribution pipelines Land ownership and easements
D	Any 2	Resources: Appropriate/relevant

		persons Materials, tools and equipment Personal protective equipment Company standard operating procedures Equipment manuals Training resources
E	At least 2	Relevant persons: Company planners and marketers Department heads Business unit managers Company engineers and consultant engineers Technical specialists Statutory authorities and environmental specialists
F	At least 2	Legislative requirements: Occupational Health and Safety legislation Relevant Government Acts, regulations and codes of practice Local government traffic management
G	At least 2	Relevant authorities: Local and shire councils Local government authorities Emergency transport authorities Rail departments Landowners/Traditional land owners

H	At least 8	Relevant documentation: Contracts Specifications/drawings/plans Manufacturer's specifications Work permits Company standard operation and safety procedures Company management plans and policies Hot work permits Company forms and files OHS legislation and codes of practice Other Government legislation Pipeline licenses Quality assurance Commercial agreements
I	All	Interpreting Gas Industry drawings Understanding of emergency management procedures Understanding of concepts and skills for Gas Industry supervisors Communication for Gas Industry supervisors Understanding of project management techniques Understanding of chemical and physical behaviours of gas Ability to manage environmental and cultural

		sensitive issues
J	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in preparing safe design specifications of a gas system.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working

practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications

UEGNSG119B Manage workplace risk

UEGNSG120B Manage gas system environmental compliance

UEGNSG115B Manage gas system projects

UEGNSG122B Manage a customer service gas business unit

UEGNSG123B Manage financial resources

UEGNSG116B Manage physical resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to preparing design specifications of a gas system.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Gas systems

Environmental hazards

System logistics

Resources

Relevant documentation (6)

Legislative compliance

Safe design principles

Relevant authorities

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG122B Manage a customer service gas business unit

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the requirements to manage a customer service gas business unit, to meet the needs of its customer base. This competency standard refers to Resources; Appropriate persons; Relevant persons; Legislative requirements; Effective communication; Relevant documentation; Records and reports; Business plans and marketing plans.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1. Assess potential in the market place	1.1	Organisational, strategic and business plans and other relevant documentation is analysed and market analysis and environmental scans are performed according to established procedures
	1.2	Products and services to form part of the business are selected consistent with the needs of the marketplace and the objectives of the organisation
	1.3	Work roles and tasks are allocated according to requirements and individual's competencies
	1.4	Work is prioritised and sequenced for the most effective outcome and completed within an acceptable timeframe to a quality standard and in accordance with established procedures
	1.5	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.6	Risk control measures are identified, prioritised and evaluated against the work schedule
2 Develop business plans for the business unit	2.1	Business unit objectives and key performance indicators are developed in consultation with relevant personnel and principle stakeholders
	2.2	A marketing strategy is developed and budgets and business unit objectives are promoted through effective communication to appropriate personnel

ELEMENT	PERFORMANCE CRITERIA	
	2.3	Decisions are made on the basis of safety and effective outcomes according to requirements and established procedures
	2.4	Mathematical models are used to analyse the effectiveness of the finished product as per requirements and established procedures
	2.5	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.6	Testing is undertaken according to requirements and established procedures
	2.7	Work teams are arranged to ensure planned goals are met according to established procedures
	2.8	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills,
	2.9	Quality of work is monitored against personal performance agreement and established organisational and professional standards
	2.10	Strategic plans are developed incorporating organisation initiatives as per established procedures
3 Manage the business unit and review and assess performance of the business unit	3.1	Distribution systems are developed and sales and product pricing schedules are developed and confirmed with appropriate personnel
	3.2	Key performance indicators are reviewed with appropriate personnel and barriers to performance are identified, analysed and recommendations for improvements made
	3.3	Product quality and sales trends are monitored and recommendations made for replacement of product or review of marketing strategies

ELEMENT	PERFORMANCE CRITERIA
	3.4 Customer energy needs are projected and new products identified and forward estimates made according to established procedures
	3.5 Reports and completion documents are submitted to relevant persons for approval and where applicable, statutory or regulatory approval
	3.6 Approved copies of documents are issued and records are updated in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for managing a customer service gas business unit.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G122B Gas business unit customer service

G 6.1.1 Understand and utilise concepts and skills for Gas Industry supervisors

Evidence shall show an understanding and interpretation of the concepts and skills required of Gas Industry supervisors to undertake activities, indicated by the following:

- applicable mathematical techniques and principles to enable production of relevant supervisory level calculations, data processing requirements and reports
- engineering principles and operating principles of pipeline systems
- understanding of safe design principles
- appropriate environmental requirements

- correctly read, analyse, interpret and record data
- third-party service location methods
- construction principles and safety
- applicable gas chemistry, properties and characteristics.

G 6.1.2 Understand and utilise information for Gas Industry supervisors

Evidence shall show an understanding of the requirements to undertake supervision/management in a Gas Industry environment, indicated by the following:

- principles of gas flow and gas metering
- organisational standard operating procedures
- site specific safety legislation and safety requirements
  - overview of Occupational Health and Safety including systematic approaches to OHS
  - health and safety stakeholders (union, employers, workers, contractors and managers) hazards
  - risk assessment and control relating to areas such as:
- electrical safety
- vibration
- outdoor work
- stress
- equipment, tools and plant
- noise
- chemicals and substances
- manual handling
- confined spaces
  - Stakeholder Relations
- managing contractors, industry awards, and employee entitlements
- understanding government and business relations
- employee associations
- industry associations
- awards and agreements
- collective bargaining and individual agreements
- conciliation, arbitration, mediation and negotiation
- coordinate the work of others
- adhere to OHS legislation and regulations
  - understanding government and the development of statute and common law
  - principles of Occupational Health and Safety and risk management

- Occupational Health and Safety legislation and regulations
- observe environmental and legislative requirements
  - understanding government and the development of statute and common law
  - principles of Occupational Health and Safety
  - environmental and other legislative requirements
- apply applicable permit to work system including types of permit limitations
  - understanding the permit to work system
  - identifying the limitations in a permit to work system
- develop and review standard operating procedures
- review and report on completed work
- employ correct waste management procedures
  - appropriate waste management procedures
  - organisational requirements for waste management
  - consequences of not managing waste effectively
- knowledge of native title issues and legislation
- analyse relevant workplace data eg incident and environmental monitoring to evaluate the effectiveness of the OHS management system.

G 6.1.4 Communicate effectively

Evidence shall show an understanding and utilisation of technology for communication in a Gas Industry environment, indicated by the following:

- effective communication for Gas Industry managers and supervisors
  - motives for communication
  - communication networks: who communicates with whom
  - verbal and non-verbal communication
  - choosing the medium and the flow of a message
  - blocks to effective communication
- analyse and interpret recorded data, review and report
- use information technology for communication
  - understanding how to use information technology
  - effective use of email, internet and other communication mediums.

G 6.1.6 Plan and carry out project management

Evidence shall show an understanding and application of the requirements to undertake project management in a Gas

Industry environment, indicated by the following:

- project management and costing
  - project planning processes
  - determining project costing
  - planning for events and milestones
  - determining inputs
  - producing outputs to a plan
- planning theory and its processes
  - the importance of planning
  - the planning process
  - organisational goals and objectives
  - strategic planning
  - operational planning
  - forecasting
- prioritise techniques
  - organising/prioritise work flows
  - time management
  - stress management
- managing persons and resources including consultants
  - understanding people
  - understanding behaviour
  - perceiving the causes of behaviour
  - defining leadership
- manage meetings
  - understanding organisational communication
  - formal and informal organisational communication
  - managing meetings and recording minutes
  - drafting minutes
- prepare reports
  - planning the writing process
  - developing the scope and outline of a document/report
  - drafting documents/reports utilising a plan and outline
  - finalising documents/reports
- facilitate contracts and employment
  - parliament, government and the law
  - statute law
  - common law
  - contracts and contract law

- employment law
- understanding of sound business principles and performance measures
  - understanding organisational behaviour
  - business fundamentals
  - establishing the principles of performance management
  - establishing performance measures
- understanding of competition policy, budgets and product pricing and tariffs
  - understanding of government business relations in the Gas Industry
  - how tariffs are determined
  - working within legislative guidelines in tariffs and pricing.

G 6.1.8 Manage environmental and culturally sensitive issues

Evidence shall show an understanding and implementation of the effective management of environmental and culturally sensitive issues in a Gas Industry environment, indicated by the following:

- understanding applicable environmental legislative compliance and regulation
  - understanding government and laws
  - penalties
  - acting in compliance with laws
- understanding of cultural and community standards and their sensitivities
  - communities and their interaction with government and business in Australia
  - cultural issues in Australia
  - using ethical behaviour in approaching cultural issues
  - anti discrimination legislation in Australia
  - native title issues in Australia
- understanding the impacts of gas installations and infrastructure on the environment and its impacts to native title
  - government and business environmental obligations
  - Australian environmental legislation and its affect on industry
  - the impact of construction of assets to the Australian environment
  - native title considerations for Gas Industry asset

owners

- managing sensitive negotiations and communicating with a wide variety of stakeholders
  - understanding stakeholder politics in Australia
  - negotiation and bargaining
  - conciliation and arbitration
  - understanding of sensitive issues and the implications for negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence

need to be 'rich' in nature so as to minimise error in judgment. Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised.

These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions. Evidence shall comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 3	Resources: Appropriate/relevant persons Materials, tools and equipment Personal protective equipment Company standard operating procedures Equipment manuals Training resources
B	At least 2	Appropriate persons:

		Organisation employees Contractors Maintenance persons Appropriately experienced and qualified persons Site security persons
C	At least 5	Relevant persons: Other supervisors Managers Inter-company departments Other utilities Consultants Council representatives Government bodies/agencies Producers Transporters Shippers Customers Landowners/Traditional landowners
D	All	Legislative requirements: Occupational Health and Safety legislation Relevant Government Acts, regulations and codes of practice Australian Standards and Codes of Practice Environmental legislative requirements
E	All	Effective communication: Verbal directions Relevant documentation Projects records/reports

		Presentations and meetings
F	At least 4	Relevant documentation: Company business plans and marketing plans Business projections Budgets and forecasts Profit and loss statements Company standard operation and safety procedures/management plans and policies Company forms and files OHS, legislation and codes of practice Relevant Government Acts, regulations and codes of practice Environmental legislative requirements Quality assurance Commercial agreements
G	At least 2	Records and reports: Business plans and marketing plans KPI's reports Financial reports and forecasts Monthly statements/invoices Persons reports Lost time Injury reports Debtor/creditor reports

H	All	Understanding of concepts and skills for Gas Industry supervisors Communication for Gas Industry supervisors Understanding of project management techniques Managing environmental and cultural sensitive issues
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in, Context of and specific resources for assessment, evidence should show demonstrated competency in Manage a customer service gas business unit

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment.

Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications

UEGNSG119B Manage workplace risk

UEGNSG120B Manage gas system environmental compliance

UEGNSG121B Prepare and design specifications for a gas system

UEGNSG115B Manage gas system projects

UEGNSG123B Manage financial resources

UEGNSG116B Manage physical resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to managing a customer service gas business unit.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Resources

Appropriate persons (6)

Relevant persons

Legislative requirements

Effective communication (6)

Relevant documentation (6)

Records and reports (6)

Business plans and marketing plans

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG123B Manage financial resources in a gas industry facility

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the requirements to manage financial resources to achieve organisational and operational objectives. This competency standard refers to Budget formats; Operating budget; Policy; Financial reports; Management information systems.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Develop a budget	1.1	Budget format is determined and consistent with organisational guidelines and procedures, cost elements are identified and quantified and cost benefit analyses are prepared for major cost items in accordance with the organisations policy and procedures
	1.2	Sub-budgets prepared by other staff are coordinated in order that desired objectives are achieved
	1.3	Organisational established procedures on policies and specifications are obtained or established with the appropriate persons
	1.4	Testing parameters are established from organisational established procedures on policies and specifications
	1.5	Testing procedures are discussed with appropriate persons in order to ascertain the project brief
	1.6	Cost benefit analysis are prepared for major cost items in accordance with the organisation's policy and procedures
	1.7	Work roles and tasks are allocated according to requirements and individual's competencies
	1.8	Work is prioritised and sequenced for the most effective outcome, completed within an acceptable timeframe to a quality standard and in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.9	Sub-budgets prepared by other staff are coordinated in order that desired objectives are achieved
	1.10	Liaison and communication issues with authorised persons, authorities and resolved and activities coordinated to carry out work
	1.11	Risk control measures are identified, prioritised and evaluated against the work schedule
2 Allocate, authorise and monitor expenditure	2.1	Financial resources are allocated as agreed in the operational plan and is monitored to ensure that expenditure management meets the financial accountability requirements of the organisation
	2.2	Supply and expenditure processes are performed in accordance with corporate governance and organisational protocols and procedures
	2.3	Mathematical models are used to analyse the financial reports as per requirements and established procedures
	2.4	Sub-budgets and financial allocation is continually monitored against organisational objectives and priorities ensuring optimum service delivery
	2.5	Essential Knowledge and Associated Skills are applied to analyse specific data and compare it with compliance specifications to ensure completion of the project within an agreed timeframe according to requirements
	2.6	Re-allocation of resources is undertaken taking into account of enterprises needs and priorities
	2.7	Work teams are arranged to ensure planned goals are met according to established procedures
	2.8	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills,

ELEMENT	PERFORMANCE CRITERIA	
	2.9	Quality of work is monitored against personal performance agreement and established organisational and professional standards
	2.10	Strategic plans are developed incorporating organisation initiatives as per established procedures
3 Utilise relevant financial management information systems and review budget management	3.1	Management information systems are used for planning, implementing and monitoring the use of financial resources in accordance with company policies and established procedures
	3.2	Management information system reports are produced, verified and interpreted
	3.3	Management of budget is reviewed in accordance with company policies and established procedures
	3.4	Management of budget is reported in accordance with company policies and established procedures
	3.5	Appropriate persons are notified of completion and reports and completion documents are finalised.
	3.6	Reports and completion documents are submitted to relevant persons for approval and where applicable, statutory or regulatory approval
	3.7	Approved copies of documents are issued and records are updated in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of working practices for managing financial resources in a Gas Industry facility.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G123B Gas industry financial management

G 6.1.9 Understand and implement financial management

Evidence shall show an understanding of the requirements to perform applicable Gas Industry financial management activities, indicated by the following:

- Understanding financial management with the ability to reporton project and company budgets utilising financial statements as required by organisational policies and procedures. These include but are not limited to:understanding financial management fundamentals and the how the following are tracked through in an accounting system:
- assets and liabilities
- revenue
- expenses
- equity
- source documents
- journals
- ledgers
- trial balance
  - reading, interpreting and reporting on project/company progress using accounting reports such as budget and cash flow reports
- understanding of resource management systems to monitor inventory, stock, consumables and physical resources and other assets
  - managing resources
  - maintaining assets/assets management

- stock/consumables control
- maintaining assets register

- understanding of computer accounting/bookkeeping software effectively
  - accounting software systems
  - invoicing
  - reconciling accounts
  - purchasing
  - stock control
  - general ledger
  - payroll
  - reporting.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 1	Budget formats: Zero based budgeting Program budgeting Line item budgeting
B	All	Operating budget: Staffing costs Capital expenditure/income Recurrent expenditure/income Forward estimates Cash flow

C	All	Policy: Supply Procurement Expenditure Audit Reporting and recording policies
D	At least 1	Financial reports: Annual reports Program financial statements Accrual reports Monthly/quarterly financial reports
E	At least 6	Management information systems: Computers Communication channels Records management data Procedures Protocol Legislation Guidelines and awards Organisation, legal and policy materials Client information Market trends Registry and file records Financial records Basic statistical information
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide

		appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of managing financial resources in a Gas Industry facility.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills

described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system

UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications

UEGNSG119B Manage workplace risk

UEGNSG120B Manage gas system environmental compliance

UEGNSG121B Prepare and design specifications for a gas system

UEGNSG115B Manage gas system projects

UEGNSG122B Manage a customer service gas business unit

UEGNSG116B Manage physical resources

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to managing financial resources in a Gas Industry facility.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Budget formats

Operating budget

Policy

Financial reports

Management information systems

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG125A Carry out transmission pipeline construction work activities

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

Undertake scheduled work activities in a transmission pipeline construction industry workplace in an agreed time and to a quality standard. All work is carried out in accordance with established procedures and in a safe manner following OHS policies and procedures. The types of work activities include cleaning the work site as well as following OHS policies and procedures; using tools and equipment; following established procedures and requirements; using safety equipment and personal protective equipment and following emergency/hazardous work situations procedures.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4) Prerequisites:**

4.1)CSU(s): Competencies

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

4.2) L&N: Literacy and numeracy skills

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 "Literacy and Numeracy"

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to undertake work activities	1.1	Instructions for the preparation of the work activity are received and confirmed to ensure clear understanding
	1.2	OHS, environmental and sustainable energy policies and procedures are received and confirmed to ensure they are understood to be applied in the carrying out of the work
	1.3	Equipment, plant, tools and personal protective equipment needed to do the work are identified, scheduled and checked to ensure they work correctly as intended and are safe to use in accordance with established procedures
	1.4	Appropriate persons are consulted to ensure the work is coordinated effectively with others involved
	1.5	Resources and materials needed to do the work are confirmed, scheduled and obtained in accordance with established procedures
	1.6	Schedule of work including practices for working safely are confirmed in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA
2 Carry out work as instructed	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 Schedule of work is followed to ensure work is completed in an agreed time, to a quality standard and with a minimum of waste
	2.3 Operational knowledge for utilising correct and safe use of basic equipment and tools to perform work is confirmed to ensure completion in an agreed time and to a quality standard with a minimum of waste according to requirements and established procedures
	2.4 Further instructions are sought from appropriate persons for unplanned events or conditions occurring
	2.5 On going checks of quality of the work are undertaken in accordance with instructions and requirements
3 Check the results of the completed work	3.1 Final checks are made to ensure the use of equipment and tools conforms with instructions and to requirements
	3.2 Appropriate persons are notified of completion of the work
	3.3 Equipment and tools and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.4 Work area is cleaned up and made safe and sustainable energy practices are followed
	3.5 Appropriate records are updated in accordance with instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work activities in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G125 Transmission pipeline construction A

G 1.1.1 Utilities industries calculations

Evidence shall show an understanding of performing calculations as required in utilities industries workplaces, indicated by the following:

- perform industry calculations
- interpret graphs and tables
- transpose formulas
- calculations include, gas rates, pressure corrections, volumes, area, measurements purging calculations
- systematic problem solving

G 1.1.2 Use of equipment and tools in the utilities industries

Evidence shall show an understanding of using equipment and tools in utilities industries workplaces, specifically:

- correct use of utilities industry equipment and tools which include drills, shovels, hammers, knives, saws, hand tools, small generator sets, air compressors and hoses, pneumatic and/or electric hammers, rollers and compactors, concrete and ceramic cutters, boring equipment, trenching equipment.
- correct use of utilities industry PPE.

G 1.1.3 Overview of workings in the utilities industries

Evidence shall show an understanding of the different utilities industries, indicated by the following:

- overview of authorities and regulatory bodies
- overview of the electrical supply (transmission and distribution and generation) industry

- overview of the Gas Industry
- overview of the water industry
- overview of the telecommunications industry
- their impact on work to be undertaken and risks associated with work to be performed

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit of competency and must be read in conjunction with the performance criteria and the range statement of the unit of competency and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1) Overview:

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence

need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines - UEG11". Evidence shall also comprise:

- A representative body of performance criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range; and
  - Apply sustainable energy principles and practices as specified in the performance criteria and range; and
  - Demonstrate an understanding of the essential knowledge and associated skills as described in 'Essential Knowledge and Associated Skills' of this unit; and
  - Demonstrate an appropriate level of employability skills; and
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Occupational Health and Safety policies and procedures followed
B	At least 6	Tools and equipment: General concrete mixer General vacuum cleaner General trolley Non pressurised pumps and hoses Wheelbarrows Traffic barriers Extra low voltage lighting equipment

		Hand held tools Holiday detection equipment Power tools Pressurised pumps and hoses Tru bend Hand wrapping machines Follow standard operating procedures
C	All	Utilities industries calculations
D	All	Read and interpret workplace documents Communicate in a team environment
E	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in carrying out work activities in a transmission pipeline construction industry work environment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 "Assessment Guidelines".

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied competency standard units where listed.

UEGNSG128 Establish a transmission pipeline construction

A work site

Range Statement

RANGE STATEMENT

10) This relates to the unit of competency as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to carrying out work activities in a transmission pipeline construction industry work environment.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

OHS policies and procedures

Tools and equipment (1)

Appropriate persons (1)

Established procedures and requirements

Legislation

Safety Equipment

Personal Protective Equipment

Emergency and Hazardous Work Situations

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG128A Establish a transmission pipeline construction work site

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the establishment and restoration of the transmission pipeline construction industry work site. Responsibility for the workload and the workplan/schedule for this competency standard may include interpreting work instructions and direction; prioritising work; using time effectively; arranging work materials; establishing and restoring the work site. Work plans include formal and informal means of prioritising activities; daily plans; quality plans; safe working plans. Procedures include standard operating procedures; quality procedures; OHS and environmental procedures; organisation continuous improvement strategy. Documentation related to tasks may include time sheets; requisitions; work sheet/job cards.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4) Prerequisites:**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 "Literacy and Numeracy"

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA	
1	Prepare to establish/restore the work site and schedule of work	1.1	Work instructions are identified, received and confirmed
		1.2	Relevant requirements, specifications and priorities are set as per procedures to establish and confirm the work schedule
		1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
		1.4	Suggestions to assist with the establishing/restoration of the work site are made to others involved in the work
		1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
		1.6	Scope of responsibility under the relevant work permit, where appropriate, are received and confirmed according to requirements and established procedures with relevant persons

ELEMENT	PERFORMANCE CRITERIA	
	1.7	Resources including equipment, tools, drawings, notices and personal protective equipment required for the job are identified and checked for working order according to established procedures
	1.8	Relevant responsibilities associated with first aid and other related work safety procedures at the work site are checked and confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
	1.9	Client issues are referred to appropriate persons in accordance with industry standards
	1.10	Site preparation is confirmed according to given instructions, as is the site safety plan and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Establish/restore the work site and schedule of work	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces and aloft, and use of power tools/equipment, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for establishing/restoration of the work site is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Establishing/restoring the work site is carried out in accordance with given instructions and established procedures to ensure all process aspects of the work are confirmed

ELEMENT	PERFORMANCE CRITERIA	
	2.5	Hazard warnings and safety signs are recognised and hazards assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Problems associated with establishing/restoring the work site are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	On going checks of quality of the work are undertaken and work is completed within an allocated timeframe in accordance with given instructions and established procedures
3 Review and document establishment/ restoration of work site schedule of work	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures
	3.7	Performance feedback is sought to confirm

ELEMENT	PERFORMANCE CRITERIA
	outcomes are in agreement with work requirements and specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for establishing the work site.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G128A Transmission pipeline construction worksite

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees,

including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry

- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the worksite

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites

- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress

- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit of competency and must be read in conjunction with the performance criteria and the range statement of the unit of competency and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the

most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines - UEG11". Evidence shall also comprise:

- A representative body of performance criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range; and
  - Apply sustainable energy principles and practices as specified in the performance criteria and range; and
  - Demonstrate an understanding of the essential knowledge and associated skills as described in 'Essential Knowledge and Associated Skills' of this unit; and
  - Demonstrate an appropriate level of employability skills; and
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 4	Correctly retrieve and use plans, drawings and maps Submit Dial Before You Dig or its equivalent application Obtain procedures and work instructions Correctly interpret instructions Advise stakeholders of upcoming work Prepare a safe work method statement or JSA Obtain all work permits as necessary

B	At least 6	Locate all services in area Procure all materials and equipment Obtain all relevant MSDS sheets Identify and control all possible environmental hazards Identify control measures for identified hazards Induct all site workers and explain all hazards Correct use of PPE appropriate to the Industry Perform machinery daily log checks Verify operator qualifications
C	At least 3	Traffic control management Erect barricades Establish warning and safety signs Establish a muster point where appropriate Log all steps onto permit or work sheet
D	All	Work utilising relevant OHS legislation, regulations, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively

		in the workplace Apply basic planning skills
E	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in establishing the work site.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 "Assessment Guidelines".

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied competency standard units where listed.

UEGNSG125 A	Carry out transmission pipeline construction work activities

Range Statement

RANGE STATEMENT

10) This relates to the unit of competency as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to establishing the work site.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Responsibility (2)

Work Plans (2)

Procedures (2)

Documentation (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.

UEGNSG131A Compile a gas industry technical report

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

The competency standard unit covers the compilation of a gas industry technical report. The competency standard unit encompasses determining the safety requirements are met and all regulatory responsibilities are adhered to. The person deemed competent in this competency standard unit must demonstrate an ability to identify information and collect and analyse gas industry data to compile a technical report.

Application of the Unit

Application of the Unit **2)**

This unit is intended for competency development entry-level employment-based programs incorporated in approved contracts of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at

License to practice **3)**

which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve competency in this unit if they have reading, writing and Numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to develop a technical report	1.1	OHS procedures for a given work area are obtained and understood.
	1.2	Established techniques for report writing are reviewed and adopted in accordance with organisational requirements
	1.3	The scope of the report is evaluated and report parameters established using a formal evaluation/survey process
	1.4	Criteria from other related works impacting on the report are determined
	1.5	Source and availability of information is identified
2 Develop a technical report	2.1	Report is developed to include scenarios/requirements established in consultation with appropriate persons and to regulatory and company requirements
	2.2	Report is developed in collaboration with all relevant personnel
	2.3	Competent persons are identified to assist in the compilation of the report
	2.4	Report is reviewed against all inputs and adjusted to rectify any anomalies
	2.5	Report is compiled in accordance with organisation's policies and procedures

ELEMENT	PERFORMANCE CRITERIA
3 Complete the final report	3.1 Report is presented and discussed with senior personnel for feedback and evaluation
	3.2 Alterations to the report resulting from presentation/discussion are negotiated with appropriate persons and to established procedures
	3.3 Final report is presented and approval for completion obtained from relevant personnel according to company procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8)This describes the essential skills and knowledge and their level, required for this unit.

Evidence must show that knowledge has been acquired of safe working practices and the compilation of a gas technical industry report.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G131A Gas industry technical report

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G2.2.2 Enterprise work activities records

Evidence shall show an ability to identify and recognise and understand the variety of symbols and abbreviations used in Gas Industry workplaces, specifically:

- Commonly used symbols and abbreviations

- Purpose of a scale/legend
- Read and interpret scales and legends.

G 2.2.20 Computer use basics

Evidence shall show an understanding of the knowledge required to install cast iron pipelines, fittings and accessories in a Gas Industry workplace, indicated by the following:

- Characteristics of cast iron pipeline, pipe sizes
- Situations in which a cast iron pipeline is used
- Range of fittings and accessories for cast iron
- Cast iron lead & hemp joints and how they are constructed
- Appropriate selection of transition fittings and adaptors to other materials
- Advantages/disadvantages in using cast iron pipe
- Read and interpret MSDS applying appropriate measures

G 2.2.21 Engineering analysis, decision making and reporting

Evidence shall show an understanding of the requirements to work with cast iron pipelines and fittings on a Gas Industry pipeline, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Equipment, tools and materials required for working with cast iron pipelines
- Purpose and function or equipment, tools and materials
- Requirements of Australian Standards and gas industry standards for working with cast iron pipe and fittings
- Safety requirements and procedures for using equipment, tools and materials
- Procedures for joining cast iron pipeline to other pipeline

G 2.2.25 Research concepts

Evidence shall show an understanding of the processes required for the cutting out and replacing of steel pipeline on a Gas Industry workplace (distribution) pipeline, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Purpose and function of equipment, tools and materials, including but not limited to, cutting and stopping equipment
- Demonstrate the correct use of stop off equipment and

cutting equipment
- Requirements of Australian Standards and gas industry standards for working with steel pipe and fittings
- Safety requirements and procedures for using equipment, tools and materials
- Gas leak testing
- Pressure testing procedures
- Apply procedures for ensuring continuity of supply including checking of network maps, gauging, fitting of bypasses and purging.
- Replace marker tape
- Coating types and repair
- Use of cross-bonding leads and neon testers

G 2.2.33 Working in a team

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.35 Data collection techniques

Evidence shall show an understanding of the knowledge to prepare the site for excavation on a Gas Industry workplace, indicated by the following:

- OHS and traffic control procedures for setting up a healthy and safe site
- Environmental control procedures for setting up a site
- Orally communicating with appropriate persons, team mates and customers regarding relevant aspects of site preparation.

G 2.2.36 Data analysis and presentation

- Evidence shall show an understanding of how to set out trenches on a Gas Industry workplace, indicated by the following:
- reading and interpreting job specifications and standard operating procedures

- grades and depth required for excavation of trenches for gas pipelines
- techniques for marking out trench location.

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit. It must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit must be considered holistically. Each Element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEG11'. Evidence shall also comprise:

- A representative body of performance criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Working knowledge of company policies and procedures especially related to report writing Understanding company briefs Analysing information to prepare a technical report Advanced literacy and report writing capability Research capability for technical report writing Effective use of a computer and software for technical

		report writing Negotiation skills for altering material with appropriate personnel
B	All	Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment it must ensure that the conditions for assessment are authentic and as far as possible reproduce and replicate the workplace and is consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to the selection of electronic components.

Method of assessment **9.4)**

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with unit:

Nil

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Use computers and appropriate software

Dealing with general enquiries from the public

Relevant Acts, Standards and Codes for gas inspection

SOPs, Established Policies and procedures

Established procedures and requirements

Appropriate Persons (7)

Non-conformance notices and procedures for issuance

Incident reporting

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross Discipline

UEGNSG202B Construct and lay distribution pipelines and services

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the construction and laying of distribution pipelines. The competency standard unit also covers connecting and disconnecting services in a utilities industry workplace, handling, transporting and connecting meters and conducting appliance relights. This competency standard refers to the relevant services; appropriate persons; the relevant materials required to lay distribution pipelines; tools and equipment; safe working procedures and the relevant legislative requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for the laying of a distribution pipeline and the connecting and disconnecting services	1.1 Plans, specifications and work instructions are received and confirmed
	1.2 Alignment of main and services and other relevant requirements are defined and established procedures are followed and the work to be performed is discussed with all persons to establish and confirm the work schedule
	1.3 OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4 Suggestions to assist with the laying of distribution pipelines and services work are made to others involved in the work
	1.5 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.6	Scope of responsibility under the relevant work permit is received and confirmed according to requirements and established procedures with relevant persons
	1.7	Resources and materials including, appropriately qualified persons, equipment, tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the event of an incident
	1.9	Client issues are referred to appropriate persons in accordance with industry and community standards
	1.10	Site is prepared according to given instructions and the work schedule to ensure a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Road signs, barriers and warning devices are positioned in accordance with given instructions and requirements including traffic management plans
2 Carry out the construction of a distribution pipeline and connecting and disconnecting services	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to minimise OHS risks

ELEMENT	PERFORMANCE CRITERIA	
	2.3	Operational knowledge for carrying out construction work is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Construction work is performed in accordance with given instructions and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the authorised persons for directions according to established procedures
	2.7	Problems associated with the construction of a distribution pipeline and services are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Services are installed, tested and commissioned in accordance with procedures
	2.9	Services are disconnected and terminated temporarily or permanently in accordance with procedures
	2.10	Appliances are lit in accordance with manufacturer's instructions
	2.11	Ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Complete the construction of a distribution pipeline and connecting and disconnecting services	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and

ELEMENT	PERFORMANCE CRITERIA	
		reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for constructing and laying distribution pipelines.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G202B Distribution pipeline construction and lay

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses

- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation

- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling

- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the worksite

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or

electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with

appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions

- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

AND one or more of the following depending on pipe type:

If undertaking the laying of nylon pipe and PE pipe

G 2.2.12 Identify nylon or PVC pipeline, fittings and accessories

Evidence shall show an ability to identify the pipeline, fittings and accessories for nylon pipelines on a Gas Industry workplace, including:

- Characteristics of nylon or PVC pipeline, fittings and accessories
- Nylon or PVC pipe sizes, range of fitting and accessories.
- Situations in which a nylon or PVC pipeline is used
- Appropriate selection of transition fittings and adaptors to other materials
- Benefits of using a nylon or PVC pipeline
- Material cost versus Installation savings
- Differentiate nylon or PVC from other materials
- Awareness of solvent properties and benefits of current solvent over earlier versions
- Read and interpret MSDS applying appropriate measures

G 2.2.13 Join nylon or PVC pipeline and fittings

Evidence shall show an ability to join nylon or PVC pipes and fittings for a nylon or PVC pipeline on a Gas Industry workplace, indicated by the following:

- Selection and use of equipment, tools and materials required for joining nylon or PVC pipe, pipeline and fittings
- Demonstrate function and use of equipment, tools and materials
- Follow safety requirements and procedures for cutting and joining nylon or PVC pipe
- Undertake cutting and tapping procedures for nylon or PVC pipe using a variety of methods
- Pressure testing procedures
- Understand jointing requirements under various conditions, inclement weather etc
- Demonstrate procedures and safety requirements for joining nylon or PVC pipe to other pipelines

G 2.2.15 Determine depth of nylon or PVC pipeline in ground

Evidence shall show an ability to determine the depth at which a pipe should be inserted in the ground for a gas distribution pipeline in a Gas Industry workplace, specifically:

- Identify depth of cover required for nylon or PVC pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection.

G 2.2.16 Install nylon or PVC pipe

Evidence shall show an understanding of the requirements to install nylon or PVC on Gas Industry pipelines, including:

- Application of Australian Standards and Gas Industry standards for installing nylon or PVC pipeline
- Conditions for direct installation or insertion of pipeline
- Procedures for installing nylon or PVC pipeline, trace wire and marker tape
- Procedures for terminating nylon or PVC pipeline
- Understand the procedures for installation of nylon or PVC pipeline under various conditions
- Static Electricity in gas pipes

G 2.2.17 Install PE pipeline, fittings and accessories

Evidence shall show an ability to install polyethylene pipelines, fittings and accessories in a Gas Industry workplace, including an understanding of:

- Differentiate PE from other materials
- Situations in which a PE pipeline is used
- Advantages and disadvantages of using a PE pipeline
- Suppliers specifications
- Appropriate selection of transition fittings and adaptors to other materials
- Various couplings & service connection tees
- Characteristics of PE HP, MP and LP pipeline, fittings and accessories
- Dimensions for series 2 pipe - Gas (SDR) from AS/NZS 4130
- PE pipe sizes, range of fitting and accessories eg differences between PE80 and PE100
- Allowable pipe damage

- Static Electricity in gas PE pipes
- Procedures for installing (including insertion, drilling and open cut method) PE pipeline, trace wire and marker tape
- Read and interpret MSDS applying appropriate measures

G 2.2.18 Join PE pipes and fittings

Evidence shall show an understanding of the requirements to join PE pipes and fittings for Gas Industry pipelines, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Correct manual handling techniques
- Electrofusion safety requirements eg working in the rain
- Selection, purpose and use of equipment, tools and materials required for joining PE pipe, pipeline and fittings
- Pipe preparation
- Follow safety requirements and procedures for cutting and joining PE pipe
- Demonstrate function and use of equipment, tools and materials
  - Butt Fusion equipment small & Large
  - Saddle fusion equipment
  - Electro fusion equipment
  - Socket Fusion equipment
- Procedures for joining pipe of differing thickness
- Cooling time for moving pipe, tapping a saddle and pressure testing
- Identify the difference between a compliant and non-compliant joint
- Undertake cutting and tapping procedures for PE pipe using a variety of methods
- Pressure testing procedures
- Understand jointing procedures under various conditions, inclement weather and conditions
- Demonstrate procedures and safety requirements for joining PE pipe to other pipelines

If undertaking the laying of cast iron and steel pipe

G 2.2.20 Identify cast iron pipe and fittings

Evidence shall show an understanding of the knowledge required to install cast iron pipelines, fittings and accessories in a Gas Industry workplace, indicated by the following:

- Characteristics of cast iron pipeline, pipe sizes
- Situations in which a cast iron pipeline is used
- Range of fittings and accessories for cast iron
- Cast iron lead & hemp joints and how they are constructed
- Appropriate selection of transition fittings and adaptors to other materials
- Advantages/disadvantages in using cast iron pipe
- Read and interpret MSDS applying appropriate measures

G 2.2.21 Work with cast iron pipe and fittings

Evidence shall show an understanding of the requirements to work with cast iron pipelines and fittings on a Gas Industry pipeline, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Equipment, tools and materials required for working with cast iron pipelines
- Purpose and function or equipment, tools and materials
- Requirements of Australian Standards and gas industry standards for working with cast iron pipe and fittings
- Safety requirements and procedures for using equipment, tools and materials
- Procedures for joining cast iron pipeline to other pipeline

G 2.2.23 Install steel pipeline, fittings and accessories

Evidence shall show an understanding of the requirements to install steel pipelines, fittings and accessories in a Gas Industry workplace (distribution), indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Safety considerations when working on steel such as bonding leads and voltage testers
- Characteristics of steel pipeline, fittings and accessories
- Benefits of using a steel pipeline
- Steel pipe sizes, range of fitting and accessories.
- Situations in which a steel pipeline is used in the distribution network
- Appropriate selection of transition fittings and adaptors to other materials
- Handling/Storage
- Cleaning internally

- Differentiate steel from other materials
- Corrosion mitigation
- Insulated joints
- Welding specifications
- Pressure testing
- Read and interpret MSDS applying appropriate measures
- Coating types and repair

G 2.2.24 Work with steel pipeline and fittings

Evidence shall show an understanding of the requirements to work with steel pipelines and fittings on a Gas Industry pipeline (distribution), indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Requirements of Australian Standards and Gas Industry standards for working with steel pipe and fittings
- Equipment, tools and materials required for working with steel pipelines
- Purpose and function of equipment, tools and materials
- Pipe cutting methods
- Stop off equipment for steel
- Safety requirements and procedures for using equipment, tools and materials
- Coating types and repair

G 2.2.26 Determine depth of steel pipeline in ground

Evidence shall show an ability to undertake the measurement of the depth that the pipeline should be buried on a Gas Industry pipeline (distribution), indicated by the following:

- Depth of cover requirements - AS1697
- Identify depth of cover required for steel pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection
- Trench widths
- Bedding requirements
- Support of steel pipe
- Backfilling requirements
- Reinstatement

If undertaking the laying of copper pipe

G 2.2.27 Identify copper pipeline, fittings and accessories

Evidence shall show an understanding of the processes required to identify copper pipeline, fittings and accessories on a Gas Industry pipeline, indicated by the following:

- Characteristics of copper pipeline, fittings and accessories
- Copper pipe sizes, range of fitting and accessories.
- Situations in which a copper pipeline is used
- Appropriate selection of transition fittings and adaptors to other materials
- Differentiate copper from other materials
- Read and interpret MSDS applying appropriate measures

G 2.2.28 Bend and join copper pipeline and fittings

Evidence shall show an ability to bend and join copper pipe and fittings for a Gas Industry pipeline, indicated by the following:

- Equipment, tools and materials required for joining copper pipeline and fittings
- Purpose and function of equipment, tools and materials
- Safety requirements and procedures for cutting and joining copper pipeline including mechanical and soldered or welded joints
- Procedures for cutting and tapping copper pipeline
- Procedures for pressure testing a pipeline
- Procedures and safety requirements for joining copper pipeline to other pipeline
- Procedures for joining copper pipeline

G 2.2.30 Determine depth of copper pipeline in ground

Evidence shall show an ability to determine the appropriate depth that copper pipe should be laid in a trench for a Gas Industry pipeline, indicated by the following:

- Depth of cover requirements - AS1697
- Identify depth of cover required for copper pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection
- Trench widths

- Bedding requirements
- Support of copper pipe
- Backfilling requirements
- Reinstatement

G 2.2.31 Install copper pipe

Evidence shall show an understanding of how to install copper pipe on a Gas Industry pipeline, indicated by the following:

- Requirements of Australian Standard and Gas Industry standards for installing copper pipeline
- Need to install or insert pipeline
- Procedures for installing copper pipeline
- Procedures for terminating copper pipeline

G 2.2.32 Comply with requirements for excavating and reinstating site

Evidence shall show an understanding of the requirements for preparing, conducting and completing an excavation indicated by the following:

- Identifying plans, codes, standards and drawings relevant to specific worksites
- Reading and interpreting relevant plans, codes, standards and drawings
- Regulatory requirements and procedures for excavating trenches and reinstating sites
- Apply shoring or benching requirements
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.43 Appliance relighting within enterprise guidelines

Evidence shall show an understanding of Appliance

relighting indicated by the following:

- Customer liaison skills
- Identify environmental and safety hazards, assess risks and implement control measures
- Safety requirements for entering domestic and commercial customer sites
- Procedures for purging service lines
- Procedures for conducting appliance relights

G 2.2.44 Handling, Transporting and Installing Meters and Regulators for services within enterprise guidelines

Evidence shall show an understanding of handling, transporting and installing meters and regulators for a service, indicated by the following:

- Customer liaison skills
- Identify environmental and safety hazards, assess risks and implement control measures
- Knowledge of Australian Standards associated with the installation of gas meters and regulators
- Identify that the regulator is working correctly
- Replace faulty regulator with a comparable regulator
- Measuring and testing flow rates and lock ups
- Correct manual handling procedures
- Safety requirements for entering domestic and commercial customer sites
- Procedures for purging service lines
- Procedures for gas leak and gas flow testing
- Test the equipment to recognised gas industry standards
- Completion of necessary connection forms and processes

G 2.2.49 Connect and tie in a residential service

Evidence shall show an understanding and demonstration for connecting and tying in residential gas services, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Safety requirements and procedures for connecting and tying in a residential gas service
- Equipment, tools and materials required for working on a residential gas services
- Purging requirements used for residential connections
- Gas leak testing procedures for residential services
- Pressure testing procedures for residential services
- Apply procedures for ensuring continuity of supply

including checking of network maps, gauging, fitting of bypasses and purging.
- Test the residential gas service to recognised gas industry standards
- Replace/Repair marker tape
- Apply appropriate procedures in the event of uncontrolled gas escapes
- Tie in and commission a residential service

G 2.2.50 Connect and tie in a commercial/industrial service and disconnect, reconnect gas industry services

Evidence shall show an understanding and demonstration for disconnecting, reconnecting and tying in a gas services, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Safety requirements and procedures for disconnecting, reconnecting and tying in commercial and industrial gas services
- Equipment, tools and materials required for working with a range of commercial and industrial gas services
- Purging requirements used for residential, industrial and commercial connections
- Gas leak testing procedures
- Pressure testing procedures
- Apply procedures for ensuring continuity of supply including checking of network maps, gauging, fitting of bypasses and purging.
- Test the gas service to recognised gas industry standards
- Replace/Repair marker tape
- Apply appropriate procedures in the event of uncontrolled gas escapes
- Tie in and commission service

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below. Complete Groups A and B. Complete 1 of the following Groups: Group C, D. Complete 2 of the following Groups: E, F, G, H. Complete Groups I and J.

Range of tools/equipment/procedures/workplace

Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	All	Interpret technical drawings and symbols Isolate, vent and purge gas pipeline systems and services Operation of gas detector Emergency response procedures Operate service locator Use and interpret Dial Before You Dig reports
B	At least 2	Excavation Trenching Stich bore Horizontal drilling Directional drilling
C	At least 4	Nylon (Polyamide) pipeline laying techniques Nylon gluing Connection of Nylon to other materials UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC compression couplings or flanges Connection of UPVC to other materials Practical application of AS4645.3 'gas distribution networks plastics pipe systems'

D	At least 4	Saddle Fusion PE pipeline laying techniques PE Electrofusion PE Butt Fusion Compression couplings or flanges Connection of PE to other materials Practical application of AS4645.3 'gas distribution networks plastics pipe systems'
E	At least 2	Steel pipeline coating repair Steel pipeline coating testing Steel field joint coating
F	At least 3At least 3	Connection of steel to other materials Sleave application Clamp application Hot tap and stopple Practical application of AS4645.2 'gas distribution networks – steel pipe systems'
G	All	Connection of copper to other materials Silver brazing Copper bending
H	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Working knowledge of the

		relevant confined space entry compliance code Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Apply basic planning skills
I	All	Install services in accordance with procedures and with minimum impact on landscaping Disconnect services Connect and test services Light appliances
J	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in constructing and laying distribution pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B Carry out work activities in a utilities industry work environment

UEENEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the construction and laying of distribution pipelines.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Services (2)

Appropriate persons (2)

Materials (2)

Tools and equipment (2)

Safe working procedures (2)

Legislative requirements (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG203B Commission or decommission gas distribution pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the commissioning and decommissioning of gas distribution pipelines. It encompasses the use of relevant tools and equipment; liaison with appropriate authorities; pipeline systems; pipeline control systems; testing.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEGNSG215A	Conduct excavations in the gas industry
UEGNSG202B	Construct and lay distribution pipelines and services

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan commissioning/decommissioning of gas distribution pipelines	1.1	Work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the commissioning and decommissioning of gas distribution pipelines are identified and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are implemented, prioritised and monitored against the work schedule
	1.6	Relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained

ELEMENT	PERFORMANCE CRITERIA	
		and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication with authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Carry out commission/decommission gas of distribution pipelines	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to commissioning/decommissioning of gas distribution pipelines to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Commissioning/decommissioning of gas distribution pipelines is carried out in accordance with the work schedule and to requirements and

ELEMENT	PERFORMANCE CRITERIA	
		established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the authorised persons for directions according to established procedures
	2.6	Adjustments are made for unplanned events in commissioning/decommissioning of gas distribution pipelines and undertaken within the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	Reports and ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Inspect test and notify completion of commissioning/ decommissioning of gas distribution pipeline work	3.1	Tools and equipment appropriate to the testing requirements are selected and work undertaken is checked against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permits are signed off and equipment is returned to service in accordance with requirements
	3.6	Final inspections are undertaken and work completion records, reports and information are finalised and processed and appropriate persons

ELEMENT **PERFORMANCE CRITERIA**

notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the commissioning/decommissioning of gas distribution pipelines.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G203B Distribution pipeline testing commission and decommission

G 3.2.1 Consult appropriate persons to coordinate work and persons in a Gas Industry workplace

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons for Gas Industry pipelines (Distribution), indicated by the following:

- personnel requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists.

G 3.2.2 Obtain and check materials, tools and equipment necessary to complete the work

Evidence shall show an understanding of the checking of materials and tools to complete work on Gas Industry pipelines (Distribution), indicated by the following:

- Relevant OHS and environmental requirements in relation to obtaining and organising required materials
- Understanding of component specifications/tools and equipment for application

- Correctly follow procedures to identify pipes, fittings, purge substances
- equipment correctly interpreted and apply purge volume and time tables and charts

G 3.2.3 Develop plans for commissioning and decommissioning

Evidence shall show an understanding of the preparation of plans for commissioning and decommissioning for gas industry pipelines (Distribution), indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Preparation of plans that consider non-routine procedures or unplanned events
- Preparation of plans that are logical in sequence
- Preparation of plans that include purge procedures
- Preparation of plans that ensure security of supply

G 3.2.4 Liaise and communicate with relevant authorities

Evidence shall show an ability to liaise with relevant authorities in preparation of plans for commissioning/decommissioning Gas Industry pipelines (Distribution), specifically:

- Legislative, OHS and environmental requirements applicable to a specific commissioning/decommissioning of a pipeline
- Authorities that need to be contacted when planning the commissioning/decommissioning of pipeline
- Requirements and procedures to obtain approvals/permits from relevant authorities
- Requirements for advising relevant authorities of intended activities
- Accurate and complete records of all communications with relevant authorities

G 3.2.5 Take distribution pipeline offline and bring distribution pipeline on-line

Evidence shall show an understanding of how to take the distribution pipeline system off line for decommissioning and bring online for the commissioning or recommissioning of Gas Industry pipelines (Distribution), specifically:

- Identify environmental and safety hazards, assess risks and implement control measures
- Undertake procedures for establishing and maintaining a safe workplace to relevant OHS and environmental requirements

- Notify affected customers in accordance with procedures
- Apply relevant procedures for bringing/taking pipeline system on/off line.
- Apply site emergency procedures ensuring they are reviewed and are current
- Undertake procedures for fitting bypass apparatus ensuring continuity of supply
- Undertake Stopping Off and Isolation of Pipelines using internal and external stop off equipment.
- Undertake procedures for purging the pipe system using a variety of media and testing procedures
- Undertake procedures for testing and sealing of pipelines

G 3.2.6 Monitor and respond to anomalies whilst commissioning and/or decommissioning operations

Evidence shall show an ability to make the required system adjustments for commissioning/ decommissioning of a Gas Industry pipelines (Distribution), indicated by the following:

- Identify Environmental and Safety Hazards, assess risks and implement control measures
- analyse effect of activities on Distribution System
- undertake monitoring of system pressure at appropriate locations depending on network design and operating conditions
- follow procedures for regulating and maintaining system pressures during commissioning and decommissioning activities
- respond to equipment faults and deficiencies in accordance with procedures.

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 3.2.8 Select and use appropriate tools and equipment to test the pipeline system in accordance with procedures and legislative requirements

Evidence shall show an understanding of the selection and use of the appropriate tools and equipment to test pipeline systems in accordance with the appropriate procedures and legislative requirements, indicated by the following:

- Appropriate tools and equipment to use for testing pipeline systems
- Use of appropriate test equipment and test substances to accurately test, adjust, calibrate and repair systems
- Interpreting test results to determine appropriate action
- Records of all test results in accordance with procedures and legislative requirements

G 3.2.9 Undertake final inspections

Evidence shall show an understanding of the inspection process in commissioning and decommission of Gas Industry pipelines (Distribution), indicated by the following:

- Identification of the code requirements that must be met
- Follow procedures to monitor valves and regulators
- Follow procedures and assess the quality of work

G 3.2.10 Notify completion of work

Evidence shall show an understanding of the evidence required for the notification of the completion of work in the commissioning/decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Complete and process documentation when the work is completed
- Notify appropriate authorities/councils in relation to site reinstatement requirements using appropriate documentation
- Record and complete amendments to drawings and plans as required
- Record and report system condition in accordance with procedures.
- Sign off risk assessments and work permits as required by procedures

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below. Complete Groups A and B. Complete 1 of the following Group: C, D. Complete 2 of the following Group: E, F, G, H. Complete Groups I, J, K.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number**	**Item List**

No	**of items on which skill is to be demonstrated**	
A	All	Interpret technical drawings and symbols Ensure emergency response procedures in place Communicate with other authorities and stakeholders Communicate schedules/coordinate to persons Carry out job safety analysis Obtain work permit Use and interpret Dial Before You Dig report or its equivalent
B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 3	Connection of nylon to other materials Nylon (polymide) pipeline laying techniques Nylon gluing Nylon stop off
D	At least 4	PE pipeline laying techniques Large diameter PE PE electro fusion PE butt fusion

		Socket fusion PE stop off Compression couplings or flanges Connection of PE to other materials Practical application of AS3723 Installation and maintenance of plastic pipe systems
E	At least 4	UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC stop off UPVC couplings or flanges Connection of UPVC to other materials Practical application of AS3723 Installation and maintenance of plastic pipe systems
F	At least 2	Steel pipeline coating repair Steel pipeline coating testing Steel, field joint coating
G	At least 3	Connection of steel to other materials Sleeve application Clamp application Hot tap and stopple
H	All	Connection of copper to other materials Silver brazing Copper bending

I	All	Isolate, vent and purge gas pipeline systems Working knowledge of AS2865/relevant confined spaces code of practice Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
J	At least 2	High pressure stop off 312 Bagtube Squash off jacks/pliers
K	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in commissioning and decommissioning gas distribution pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B Carry out work activities in a utilities industry

	work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to commissioning/decommissioning distribution pipelines.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate persons (3)

Tools, Materials and Equipment (3)

Appropriate authorities (3)

Pipeline systems (3)

Documentation (3)

Tools, materials and equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG204B Coordinate and conduct gas distribution pipeline repair and modifications

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the coordination of gas distribution pipeline repair and modifications. Inspection and testing techniques are included for this competency standard. It encompasses identifying and attending to leaks as classified in AS4645.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan for coordination of repairs and modifications of a gas distribution pipeline	1.1	Information concerning the identified repair/modification is conveyed to all parties and work schedule(s), including drawings, plans, requirements, established procedures; and material lists are received, analysed and confirmed if necessary by site inspection
	1.2	Necessary plans, specifications and other relevant information and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the coordinating of gas distribution pipeline repairs and modifications are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools

ELEMENT	PERFORMANCE CRITERIA	
		and personal protective equipment required for the job are identified, scheduled, obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with other authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Coordinate pipeline repairs or modifications for gas distribution pipelines and notify completion of work	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to the coordinating of gas distribution pipeline repairs and modifications to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements

ELEMENT	PERFORMANCE CRITERIA	
	2.4	Coordination of gas distribution pipeline repairs and modifications is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the authorised persons for directions according to established procedures
	2.6	Repair work is monitored and unplanned events and amendments and modifications in the coordinating pipeline repair and modifications are undertaken within the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	All required testing procedures are followed and ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Re-establish distribution pipeline to operational conditions and notify completion of work	3.1	System is re-established in order to meet distribution pipeline requirements and the work undertaken is checked against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance

ELEMENT	PERFORMANCE CRITERIA
	with requirements
	3.6 Records and drawings are updated to reflect repair, modifications and work completion records, reports as installed and documentation finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the coordination of gas distribution pipeline repair and modifications.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G204B Distribution pipeline repair and modification

G 2.2.14 Cut out, repair and replace damaged nylon or PVC pipe

Evidence shall show an understanding of requirements to repair a damaged nylon pipe in a Gas Industry workplace, indicated by the following:

- Undertake procedures for disconnecting and terminating nylon or PVC Pipe
- Selection and application of various squeeze off equipment for Nylon including Hydraulic squeezers
- Undertake repair methods for nylon or PVC pipeline, trace wire and marker tape
- Demonstrate procedures for cutting out and replacing nylon or PVC pipe of various diameters and in various locations including fixed connection points.
- Demonstrate procedures for accessing inserted nylon or PVC pipe including breaking out Cast Iron conduits and cutting out Steel conduit
- Apply procedures for ensuring continuity of supply including checking of network maps, gauging, fitting of bypasses and purging.
- Undertake joining and testing of trace wire and marker tape
- Static Electricity in gas pipes

G 2.2.19 Repair damaged PE pipeline

Evidence shall show an understanding of the requirements to repair damaged PE pipe on a Gas Industry pipeline, indicated by the following:

- Identify Environmental and Safety Hazards, assess risks and implement control measures

- Dangers of working with live gas
- Undertake procedures for disconnecting and terminating PE pipe
- Selection and application of various squeeze off and stop off equipment including Hydraulic squeezers
- Undertake repair methods for PE pipeline, saddles, trace wire and marker tape
- Demonstrate procedures for cutting out and replacing PE pipe of various diameters and in various locations including fixed connection points
- Gas leak testing
- Pressure testing procedures
- Apply procedures for ensuring continuity of supply including checking of network maps, Gauging, fitting of bypasses and purging
- Jointing methods for repair work
- Undertake joining and testing of trace wire and marker tape

G 2.2.22 Cut out, repair and replace cast iron pipeline

Evidence shall show an understanding of how to repair or replace a cast iron pipeline on a Gas Industry workplace, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Stop off equipment for cast iron
- Cutting methods for cast iron
- Undertake procedures for disconnecting and terminating cast iron pipe
- Undertake repair methods for cast iron pipeline, saddles, trace wire and marker tape
- Demonstrate procedures for cutting out and replacing cast iron pipe of various diameters and in various locations including fixed connection points
- External injection of Anaerobic sealants
- Gas leak testing
- Pressure testing procedures
- Apply procedures for ensuring continuity of supply including checking of network maps, Gauging, fitting of bypasses and purging.
- Undertake joining and testing of trace wire and marker tape
- Use of cross-bonding leads and neon testers

G 2.2.25 Cut out, repair and replace steel pipeline

Evidence shall show an understanding of the processes required for the cutting out and replacing of steel pipeline on a Gas Industry workplace (distribution) pipeline, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Purpose and function of equipment, tools and materials, including but not limited to, cutting and stopping equipment
- Demonstrate the correct use of stop off equipment and cutting equipment
- Requirements of Australian Standards and gas industry standards for working with steel pipe and fittings
- Safety requirements and procedures for using equipment, tools and materials
- Gas leak testing
- Pressure testing procedures
- Apply procedures for ensuring continuity of supply including checking of network maps, gauging, fitting of bypasses and purging.
- Replace marker tape
- Coating types and repair
- Use of cross-bonding leads and neon testers

G 2.2.29 Cut out, repair and replace damaged copper pipe

Evidence shall show an understanding of how to repair a damaged copper pipe on a Gas Industry pipeline, indicated by the following:

- Equipment, tools and materials required for joining copper pipeline and fittings
- Purpose and function of equipment, tools and materials
- Safety requirements and procedures for cutting and joining copper pipeline including mechanical and soldered or welded joints
- Procedures for cutting and tapping copper pipeline
- Procedures for pressure testing a pipeline
- Procedures and safety requirements for joining copper pipeline to other pipeline
- Procedures for joining copper pipeline
- Use of cross-bonding leads and neon testers

G 3.2.11 Prepare for testing and inspection of pipeline system

Evidence shall show an understanding of the requirements to test and inspect Gas Industry pipeline (Distribution) systems, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Interpret and apply environmental and safety regulations
- Knowledge of the properties and characteristics of gas relevant to the pipeline systems to be tested
- Knowledge of the different classification of leaks and relevant procedures associated with each class of leak

G 3.2.12 Select and use appropriate tools and equipment to inspect and test the pipeline system in accordance with procedures and legislative requirements

Evidence shall show an understanding of the requirement to select the appropriate tools and equipment required to undertake the testing of Gas Industry pipeline (Distribution), systems, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Range of testing and inspection methods appropriate to the system under test
- Correct and appropriate use of test and inspection equipment such as:
  - Gas detectors
  - Pressure measuring and monitoring equipment
  - Snoop for leaks on flanges and fittings
  - Measuring devices
- Interpret SI units such for pressure, temperature etc.
- Procedures to ensure that supply pressure is maintained
- Procedures required to monitor gaseous atmosphere

G 3.2.13 Record and interpret test data

Evidence shall show an understanding of the requirements to record and interpret test data for Gas Industry pipeline (Distribution) systems, indicated by the following:

- Interpret SI units such for pressure, temperature etc
- Record information and test data on completion of testing/inspection procedures
- Analyse test data to identify system defects and faults
- Use test data to correctly classify leaks for prioritising repairs

- Report results to relevant third parties using a range of reporting methods (forms, reports etc)

G 3.2.14 Monitor pipeline system during repair work

Evidence shall show an understanding of the requirements to monitor pipeline system during repair work on a Gas Industry pipeline (Distribution), indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Procedures to conduct gas pressure and flow monitoring
- Interpret and apply manufacturer's maintenance specifications
- Coordinate resources to prevent outages during repair work
- Monitor impact of the work on environment, people and equipment

G 3.2.15 Conduct repairs and make amendments or modifications as required

Evidence shall show an understanding of the requirements to conduct repairs and make amendments or modifications as necessary on a Gas Industry pipeline (Distribution) systems, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Conduct repairs with appropriate tools and equipment according to established work procedures
- Comply with procedures when evaluating and implementing amendments or modifications
- Comply with procedures to assess the quality of work and ensure compliance with procedures, legislative and environmental requirements

G 3.2.16 Re-establish system and restore site

Evidence shall show an understanding of the re-establishment of the system and the restoration of the site on Gas Industry pipeline (Distribution) systems, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Confirmation that repairs and modifications are complete
- Identify relevant third parties for notification purposes

- Complete work permits
- Effectively communicate results to relevant third parties

G 3.2.17 Maintain records

Evidence shall show an ability to maintain of records for the repair and modification of Gas Industry pipelines (Distribution) systems, indicated by the following:

- Interpret and apply enterprise policies and procedures
- Collate all relevant data
- Identify and complete the relevant records, drawings, documents and forms
- Store records in a secure manner consistent with enterprise policies and procedures

G 3.2.18 Obtain information relevant to pipeline repair and modification

Evidence shall show an ability to obtain information and procedures for repairing or modifying Gas Industry pipelines (Distribution) systems, indicated by the following:

- Source relevant documentation including plans, drawings, maps and specifications
- Identify any potential issues associated with the relevant documentation like missing or incorrect information
- Assess the scope of the repair or modifications required
- Determine affects on customer supply and extent of the repair or modification
- Determine materials and equipment required

G 3.2.19 Liaise and communicate with relevant parties

Evidence shall show an understanding of liaising and communicating with relevant parties involved in repair or modification of Gas Industry pipelines (Distribution), specifically:

- Interpret and apply enterprise policies and procedures
- Identify key stakeholders
- Identify specialists that can assist in repair/modification work
- Identify responsibilities and reporting requirements of third parties
- Establish communication lines with parties that require notification of repairs/modifications

G 3.2.20 Prepare work site for repairs/modifications work

Evidence shall show an understanding of the preparation of Gas Industry (Distribution) workplaces for

repairs/modifications work, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Determine strategies for maintaining supply
- Comply with procedures for locating services on the worksite
- Identify and control possible sources of ignition
- Identify communications protocols and requirements
- Prepare procedures for the coordination of site activities
- Maintain records of communications with relevant third parties

G 3.2.21 Organise required equipment, materials and persons

Evidence shall show an understanding of the requirements to organise required equipment, materials and persons for Gas Industry pipeline (Distribution) work activities, indicated by the following:

- Identify Environmental and Safety Hazards, assess risks and implement control measures associated with obtaining equipment and materials
- Interpret and apply enterprise policies and procedures relevant to obtaining equipment and materials
- Identify and comply with legislative requirements relevant to obtaining equipment and materials
- Locate and comply with all relevant MSDS' associated with obtaining equipment and materials
- Interpret documentation to ensure correct equipment and materials are sourced
- Coordinate the deployment of required equipment, materials and persons to a worksite

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.
- Competency is demonstrated across the range of variables highlighted in the range of variables guideline A, B, C, D, E, F, G, H, I for the coordination of gas distribution pipeline repair and modifications.
- Group A and B must be done
- At least 3 groups must be completed from C, D, E, F, G, H
- Group I must be completed

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Interpret technical drawings and symbols Ensure emergency response procedures in place

		Communicate with other authorities and stakeholders Communicate schedules /coordinate to persons Carry out job safety analysis Obtain work permit Use and interpret Dial Before You Dig report
B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 3	Nylon (polymide) pipeline laying techniques Nylon gluing Nylon stop off
D	At least 5	PE pipeline laying techniques Large diameter PE PE electro fusion PE butt fusion Saddle fusion Socket fusion PE stop off Compression couplings or flanges Connection of PE to nylon Practical application of AS3723 Installation and Maintenance of plastic pipe systems

E	At least 4	UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC stop off UPVC couplings or flanges Connection of UPVC to steel Practical application of AS3723 Installation and maintenance of plastic pipe systems
F	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
G	At least 3	Connection of PE to steel mains Steel mains welding Steel mains repair Sleeve application Clamp application Hot tap and stopple
H	At least 2	High pressure stop off — 312 Bagtube Squash off jacks Squash off pliers
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above

		listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency working:

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the coordination of gas distribution pipeline repair and modifications.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Inspection and testing techniques (3)

Leaks (3)

Repair and maintenance equipment (3)

Repair/modification techniques (3)

Documentation/records (3)

Tools, materials and equipment

Pipeline systems

Pipeline control systems

Appropriate authorities

Appropriate person

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG205B Launch and recover PIG in a gas distribution pipeline

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the assembly launch and recovery of PIGs in gas distribution pipelines to correct and determine internal condition on pipeline. It also encompasses liaising with authorities; the analysis and interpretation of the data captured through the pigging process; using various types of PIGs; testing and inspecting; use of manufacturer's and legislative requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly

License to practice **3)**

related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan for pigging gas distribution pipeline	1.1	Distribution pipeline pigging operation is prepared and confirmed as per the work schedule(s), including drawings, plans, requirements and established procedures
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the launch and recovery of gas distribution pipeline PIG are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are implemented, prioritised and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained

ELEMENT	PERFORMANCE CRITERIA	
		and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication with authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
	1.10	Site PIG and pipeline is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Launch, and recover distribution pipeline PIG	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to the launch and recovery of a gas distribution pipeline PIG to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Performing the launch and recovery of gas distribution pipeline PIG is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported

ELEMENT	PERFORMANCE CRITERIA	
		to the authorised persons for directions according to established procedures
	2.6	Data/results from distribution pipeline pigging operations is gathered/retrieved and analysed to determine internal pipeline conditions in accordance with requirements and established procedures
	2.7	Tests and inspecting of the pipeline and pigging equipment is conducted in accordance with requirements and established procedures
	2.8	Unplanned events in the launch and recovery of a gas distribution pipeline PIG is undertaken within the scope of established procedures
	2.9	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.10	Ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Re-establish distribution pipeline to operational conditions and notify of completion of work	3.1	Inspection of the received PIG is undertaken to determine the wear sustained to the PIG, material is checked against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Waste materials are safely disposed of and the work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance

ELEMENT	PERFORMANCE CRITERIA
	with requirements
	3.6 Data is accurately recorded and work completion records, reports as modified drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the launching and recovering of a pig in a gas distribution pipeline.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G205B PIG launch and recovery

G 3.3.38 Set up of pipeline for pigging

Evidence shall show an understanding of the correct pipeline set up for the launching and recovery of a PIG, indicated by the following:

- pipeline is set up correctly according to requirements
- appropriate authorities and persons are identified and notified according requirements.

G 3.3.39 Assembly and use of pig

Evidence shall show an understanding of how to assemble and launch and recover a PIG, indicated by the following:

- understanding the different types of PIGs available
- manufacturer's operating instructions
- legislative requirements for using PIGs.

G 3.3.41 Select and use appropriate tools and equipment for pigging

Evidence shall show an understanding of the requirements to select and use the appropriate tools and equipment for

pigging, indicated by the following:

- testing and inspection methods and their appropriate applications
- appropriate use of test and inspection equipment.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to

safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Interpret technical drawings and symbols Ensure emergency response procedures in place Communicate with other authorities and stakeholders Communicate schedules/coordinate to persons Carry out job safety analysis Obtain work permit

		Use and interpret Dial Before You Dig report or its equivalent
B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 3	Nylon (Polyamide) pipeline laying techniques Nylon gluing Nylon Stop Off Connection to nylon PE Practical application of AS3723 Installation and maintenance of plastic pipe systems
D	At least 5	PE Pipeline laying techniques Large Diameter PE PE Electro Fusion PE Butt Fusion Saddle Fusion Socket Fusion PE Stop Off Compressor Couplings or Flanges Connection of PE to nylon Practical application of AS3723 Installation and Maintenance of plastic pipe systems
E	At least 4	UPVC pipeline laying techniques UPVC solvent cemented

		joints UPVC moulded joints UPVC Stop Off UPVC couplings and flanges Connection of UPVC to steel Practical application of AS3723 Installation and Maintenance of plastic pipe systems
F	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
G	At least 3	Connection of PE to steel mains Steel mains welding/repair Sleeve application Clamp application Hot Tap and Stopple
H	All	Isolate, vent and purge gas pipeline systems Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
I	At least 2	High Pressure Stop Off 312 Bagtube Squash Off Jacks Squash Off Pliers
J	All	Prepare pig trap for launch Prepare trap for receiving

		Determine volume of water needed Install disc pig Carry out pigging operation Install foam pig Carry out pigging operation Pressure test pipeline
K	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in launching and recovering PIG in a gas distribution pipeline.

Assessment of this competency must also be undertaken in either

an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the launch and Recovery of PIGs in a gas distribution pipeline.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Equipment (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG206B Perform routine maintenance on distribution pipeline facilities and equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the performance of routine maintenance of distribution pipelines, facilities and equipment.

This competency standard includes using equipment, tools and testing devices; performing routine maintenance; identifying faults; and completing the appropriate documentation and reports.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly

License to practice **3)**

related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan for routine maintenance on distribution pipeline facilities and equipment	1.1	Work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the performing of routine maintenance of pipeline, facilities and equipment are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are implemented, prioritised and monitored against the work schedule
	1.6	The facilities/equipment is made safe by ensuring it is safely isolated, depressurised, tagged and locked out and a permit to work is obtained to access and perform work according to requirements and established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures such as licensed to operate equipment according to requirements
	1.9	Liaison and communication with authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Perform routine maintenance on distribution pipeline facilities and equipment	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to the performing of routine maintenance of pipeline, facilities and equipment to ensure completion in an agreed timeframe and to quality standards with a minimum of waste

ELEMENT	PERFORMANCE CRITERIA	
		according to requirements
	2.4	Routine maintenance of distribution facilities and equipment is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the authorised persons for directions according to established procedures
	2.6	Unplanned events in the performing of routine maintenance of distribution pipeline, facilities and equipment is undertaken within the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	Ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Routine maintenance is completed and results recorded and notified	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Work completion records, reports as installed, modified drawings, documentation and

ELEMENT	PERFORMANCE CRITERIA
	information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for performing routine maintenance on distribution pipeline facilities and equipment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G206B Distribution pipeline maintenance

G 3.2.51 Plan and prepare for pipeline inspection and testing (up to and including 1050kPa)

Evidence shall show an understanding of the requirements to plan and prepare for pipeline inspections and testing on a Gas Industry pipeline (Distribution), indicated by the following:

- Apply relevant OHS procedures and environmental requirements in relation to preparing for inspection and testing procedures on pipelines, facilities and equipment
- Review planning requirements and resources necessary to carry out inspection and testing procedures on pipelines, facilities and equipment
- Demonstrate knowledge of tools, instruments and equipment required for inspection and testing procedures on pipelines, facilities and equipment including high pressure stop off equipment, 312, bagtubes, squash off jacks & gauges
- Obtain and interpret various workshop manuals, part lists, checklists and specifications as required to undertake work on a variety of assets which include valves, filters, meters and regulators, pressure reliefs, flanges and fittings, markers and signs.

- Undertake leakage surveys and location of facilities and equipment
- Locate and discuss the use of appropriate emergency equipment.

G 3.2.52 Secure facilities/equipment prior to inspection and testing of pipelines, facilities and equipment (up to and including 1050kPa)

Evidence shall show an understanding of the requirements to secure facilities and equipment for inspection and testing of pipelines, facilities and equipment on a Gas Industry pipeline indicated by the following:

- Discuss the requirements for safety plans and non-routine procedures
- Identify precautions and concerns relevant to the inspection and testing being carried out
- Undertake risk assessments and entry permits as required
- Adhere to procedures, OHS, legislative and environmental requirements.
- Demonstrate procedures to safely isolate, depressurise, tag and lockout facilities and equipment which include valves, filters, meters and regulators, pressure reliefs, flanges and fittings, markers and signs

G 3.2.53 Inspect and test low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa) in accordance with procedures, OHS and environmental requirements

Evidence shall show an understanding of the requirements to inspect and test pipelines, facilities and equipment in accordance with procedures, OHS and environmental requirements, indicated by the following:

- Identify types of pipeline, facilities and equipment to be inspected and tested
- Discuss types of faults and their characteristics that may be encountered during inspection and testing procedures of pipelines, facilities and equipment
- Identify characteristics of the operating capabilities and limitations of tools and equipment used to inspect and test pipelines, facilities and equipment
- Carry out inspection and testing of pipelines, facilities and equipment in accordance with procedures, ohs and environmental requirements.
- Check alignments, measurements and materials to design, specifications and drawings

G 3.2.54 Correctly diagnose and assess faults of pipelines, facilities and equipment (up to and including 1050kPa)

Evidence shall show an understanding of the requirements to correctly diagnose and assess faults of low, medium and secondary pipeline, facilities and equipment, indicated by the following:

- Demonstrate methods available for fault finding and trouble shooting to determine what maintenance is required.
- Evaluate the condition of operational systems and equipment for safety and serviceability
- Use tools and testing equipment which include gauges, analysers, measuring equipment, destructive and non destructive testing equipment in accordance procedures
- Identify follow up maintenance requirements
- Communicate and document the required findings/actions using appropriate reporting and recording systems

G 3.2.55 Plan and prepare for routine maintenance on pipelines, facilities and equipment (up to and including 1050kPa)

Evidence shall show an ability to plan and prepare for routine maintenance of high pressure pipelines, facilities and equipment on a Gas Industry pipeline (Distribution), indicated by the following:

- Identify hazards and explain the relevant OHS procedures and environmental requirements that require implementation prior to and during repair work
- Identify the types of problems and faults that may require repair
- Identify maintenance work to be carried out, the required equipment and materials and the relevant manufacturer's specifications and procedures including relevant plans, drawings and written information required to perform maintenance
- Identify OHS and environmental requirements applicable to the work area
- Identify procedures, persons, equipment and processes required for repair work and plan the coordination of these resources
- Obtain required work permits
- Locate and secure emergency equipment and ensure all persons are familiar with emergency plans.
- Prepare equipment including adjustments and calibration to ensure high performance operation.

- Obtain, interpret and use the relevant technical drawings, plans and specifications during the preparation and planning of repair work

G 3.2.56 Secure work area prior to maintenance of pipelines, facilities and equipment (up to and including 1050kPa)

Evidence shall show an understanding of the requirements to secure work areas prior to maintenance of low, medium and secondary pipelines, facilities and equipment on a Gas Industry pipelines (Distribution), indicated by the following:

- Identify and obtain required permits
- Complete risk assessments and work permits as required
- Prepare and secure work area in accordance with OHS and environmental requirements. Include barriers, fencing, tags, notices and locking devices
- Locate and use appropriate emergency equipment.
- Identify requirements for, and use of, work permits, safety plans, non-routine procedures and safety checklists
- Implement and adhere to procedures, OHS and environmental requirements to ensure a safe worksite is established and maintained
- Prepare equipment for repair work ensuring it is depressurised, tagged and locked out
- Undertake routine checks and review documentation of facilities/equipment and discuss overall repair process
- Verify that facilities and equipment are safe for repair work to commence

G 3.2.57 Perform routine maintenance on pipelines, facilities and equipment (up to and including 1050kPa)

Evidence shall show an understanding of performing routine maintenance on pipelines, facilities and equipment for a Gas Industry pipelines (Distribution), indicated by the following:

- Demonstrate different types of maintenance procedures appropriate for pipelines, facilities and equipment which includes valves, filters, meters and regulators, pressure reliefs, flanges and fittings, markers and signs
- Undertake maintenance procedures relevant to required work
- Use tools, instruments and all other equipment safely and effectively during the required maintenance tasks
- Undertake routine maintenance following manufacturer's specifications OHS requirements and procedures in an efficient and effective manner.

G 3.2.58 Notify completion of work on pipelines, facilities and

equipment (up to and including 1050kPa)

Evidence shall show an understanding of the notification of the completion of work on high pressure pipelines, facilities and equipment, indicated by the following:

- Review procedures for documenting and recording maintenance results
- Notify the relevant authorities in relation to completion of work in accordance with procedures
- Complete maintenance records including parts used, further maintenance requirements and time of next service
- Clean up work area equipment, tools and materials
- Complete and process documentation when the work is completed
- Record and complete amendments to drawings and plans as required
- Record and report system condition in accordance with procedures.
- Sign off risk assessments and work permits as required by procedures including cancelling and signing off relevant work permits on completion of work

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is

recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Perform risk assessments Interpret technical drawings and symbols Ensure emergency response procedures in place Communicate with authorities and stakeholders Coordinate resources Obtain work permits Use and interpret Dial Before You Dig reports

B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 4	Nylon (polymide) pipeline laying techniques Nylon gluing Connection of Nylon to other materials Nylon stop off UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC stop off UPVC couplings or flanges Connection of UPVC to other materials Practical application of AS3723 Installation and maintenance of plastic pipe systems
D	At least 5	PE pipeline laying techniques Large diameter PE PE electro fusion PE butt fusion Saddle fusion Socket fusion PE stop off Compression couplings or flanges

		Connection of PE to nylon Practical application of AS3723 Installation and Maintenance of plastic pipe systems
E	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
F	All	Isolate, vent and purge gas pipeline systems Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
G	At least 2	High pressure stop off 312 Bagtube Squash off jacks Squash off pliers
H	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in performing routine maintenance on distribution pipeline facilities and equipment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to performing routine maintenance on distribution pipeline facilities and equipment.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Equipment (3)

Tools, equipment and testing devices (3)

Types of faults (3)

Documentation (3)

Reports (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG207B Coordinate construction, laying and testing of gas distribution pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the coordination of the construction, laying and testing of gas distribution pipelines and associated equipment. The competency standard also requires that other services are notified; communication with appropriate persons; the relevant materials, tools and equipment are used; work is undertaken observing the relevant standard operating procedures and safe working practices.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly

License to practice **3)**

related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare to coordinate pipeline installation	1.1	Alignment of gas main and associated equipment is confirmed and location of other services verified against work schedule(s) and established procedures and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the coordination of construction, laying and testing of gas distribution pipelines are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Appropriate persons are consulted to ensure the work plan is coordinated and that work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are implemented, prioritised and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication with authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Coordinate construction, laying and insertion of pipelines and associated	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
equipment and test pipeline for conformance to specifications	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills for the coordination of construction, laying and testing of gas distribution pipelines are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste

ELEMENT	PERFORMANCE CRITERIA	
		according to requirements
	2.4	Performing the coordination of construction, laying and testing of gas distribution pipelines is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the authorised persons for directions according to established procedures
	2.6	Unplanned events in the coordination of construction, laying and testing of gas distribution pipelines is undertaken within the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	Ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Complete the coordination of construction, laying and testing of gas distribution	3.1	Final inspection are undertaken to ensure the construction, laying and testing conforms to requirements and anomalies reported in accordance with established procedures
pipelines	3.2	Accidents and injuries are reported in accordance with established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements

ELEMENT	PERFORMANCE CRITERIA
	3.6 Work completion records, reports and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for coordinating construction, laying and testing of gas distribution pipelines.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G207B Distribution pipeline testing

G3.2.45 Plan and prepare coordination of pipeline installation

Evidence shall show an understanding of the requirements to plan and prepare coordination of repairs to pipelines, facilities and equipment on a Gas Industry pipeline (Distribution), indicated by the following:

- identification of the types of problems and faults that may require repair
- obtaining, interpreting and using relevant technical drawings, plans or specifications during preparation and planning of repair work
- identification of hazards (including confined spaces) and explanation of OHS, procedures and environmental requirements that require implementation prior to and during repair work
- identification of procedures, persons, equipment and processes required for the repair work and plan the coordination of resources
- required work permits
- locating and securing of emergency equipment and ensuring all personnel are familiar with emergency plans.

G3.2.46 Secure work area and equipment prior to installation

Evidence shall show an understanding of the requirements to secure work area and equipment prior to repair on a Gas Industry pipeline (Distribution), indicated by the following:

- discuss the requirements for and use of work permits, safety plans, non-routine procedures and safety checks
- implementation and adherence to procedures, OHS and environmental requirements to ensure a safe worksite is established and maintained
- equipment for repair work is depressurised, tagged and locked out
- routine checks and documentation of facilities/equipment and overall repair process
- verification that facilities/equipment are safe for repair work to commence by ensuring that all procedures have been followed and requirements met.

G3.2.47 Coordinate construction, laying and insertion of pipelines and associated equipment

Evidence shall show an understanding of the requirements to coordinate the construction, laying and insertion of pipelines and associated equipment on a Gas Industry pipeline (Distribution), indicated by the following:

- management plans and construction and installation procedures are understood for communication to all persons affected
- procedures to monitor persons, systems, equipment and environmental conditions to ensure procedure, OHS and environmental requirements are maintained during the construction, laying and insertion of pipeline process
- coordination techniques for construction of pipeline ensuring that all procedures, OHS and environmental requirements are met
- assessment of the identification and location of pipelines requiring renewal
- verification that the required pipe laying and pipe joining techniques and supervision of procedures for compliance is met and understood
- coordination for the monitoring and installation and/or insertion of pipeline and validation of the standard to ensure it meets OHS, environmental and legislative requirements
- assessment of progress of installation/insertion to evaluate and implement required amendments or modifications and communication of changes to

appropriate persons
- dangerous and/or emergency situations in accordance with procedures, OHS and environmental requirements.

G3.2.48 Test pipeline for conformance

Evidence shall show an understanding of the testing procedures for a Gas Industry pipeline (Distribution), for conformance, indicated by the following:

- identification of the most appropriate techniques for testing and inspecting gas pipelines
- types of faults and their associated characteristics which could be encountered during inspection and testing procedures
- selection of pipeline testing equipment and substances
- pipeline inspection and testing procedures and compliance with procedures, OHS and environmental requirements
- documentation and confirmation to test results and implement procedures to determine appropriate action
- communication of required results, findings and actions using appropriate reporting and recording systems.

G3.2.49 Conduct final inspection

Evidence shall show an understanding of the requirements to conduct final inspection procedures, indicated by the following:

- new pipeline locations are correctly recorded in accordance with procedures and legislative requirements
- site reinstatement and notification of authorities is performed correctly in relation to completion of work procedures
- all documentation is inspected in relation to pipeline construction, laying and testing to ensure correct and accurate completion for processing
- coordination of the clearing of work area of equipment, tools, materials is understood and applied in accordance with OHS and environmental requirements.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**

A	All	Interpret technical drawings and symbols Ensure emergency response procedures in place Communicate with other authorities and stakeholders Communicate schedules/coordinate to persons Carry out job safety analysis Obtain work permit Use and interpret Dial Before You Dig report or its equivalent
B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 4	Nylon (polymide) pipeline laying techniques Nylon gluing Connection of Nylon to other materials Nylon stop off UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC stop off UPVC couplings or flanges Connection of UPVC to

		other materials Practical application of AS3723 Installation and maintenance of plastic pipe systems
D	At least 5	PE pipeline laying techniques Large diameter PE PE electro fusion PE butt fusion Saddle fusion Socket fusion PE stop off Compression couplings or flanges Connection of PE to other materials Practical application of AS3723 Installation and Maintenance of plastic pipe systems and AS 2865 Safe working in confined spaces
E	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
F	At least 3	Connection of PE to steel mains Steel mains welding Steel mains repair Sleeve application Clamp application Hot tap and stopple
G	All	Isolate, vent and purge gas pipeline systems

		Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
H	At least 2	High pressure stop off 312 Bagtube Squash off jacks Squash off pliers
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in coordinating construction, laying and testing of gas distribution pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the coordination construction, laying and testing of gas distribution pipelines.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Other services (3)

Appropriate persons (3)

Materials (3)

Tools and equipment (3)

Safe working procedures (3)

Standard operating procedures (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG208B Gas distribution pipeline surveillance

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the surveillance of gas distribution pipelines. The competency standard is applied against the procedures found for the surveillance of gas distribution pipelines. The competency standard outlines the areas to be monitored; inspection of areas; system's pipe work; structures; fittings; equipment; organisational and statutory requirements and recording and reporting.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Monitor gas distribution pipeline system performance	1.1	Routine inspection of network is conducted and faults reported in a timely manner against work schedule(s) and established procedures and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons
	1.3	OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for gas distribution pipeline surveillance are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are implemented, prioritised and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for gas distribution pipeline surveillance are identified, scheduled and obtained and confirmed in working order

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Liaison and communication issues with authorised persons, authorities and clients are resolved to carry out work where necessary
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Identification of gas distribution pipeline system non-conformance	2.1	Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.2	Dealings with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3	Essential Knowledge and Associated Skills for the gas distribution pipeline surveillance is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Leakages and damaged pipes and fittings are recorded in accordance with the work schedule and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the authorised persons for directions according to established procedures
	2.6	Unplanned events in gas distribution pipeline surveillance are undertaken with the scope of established procedures
	2.7	System faults and the operational condition of the network are identified and reported and known solutions are applied using acquired Essential Knowledge and Associated Skills
	2.8	Pressure and flow fluctuations outside acceptable limits are investigated and ongoing checks of work quality are undertaken in

ELEMENT	PERFORMANCE CRITERIA	
		accordance with given instructions and established procedures
3 Review, record and report on gas distribution pipeline surveillance work	3.1	Solutions are developed based on consideration of relevant information and options and proposed solutions are communicated and implemented as required against works schedule and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Solution is implemented in accordance with standard operating procedures ensuring that action is correctly documented, the transaction is accurately processed and the customer is advised
	3.4	Patrol log and work completion records, reports and documentation are finalised and processed and appropriate personnel notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the gas distribution pipeline surveillance investigation of billing exceptions/conditions.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G208B Distribution pipeline surveillance

G 3.2.1 Consulting appropriate persons to coordinate work and persons

Evidence shall show an understanding of consulting

appropriate persons to coordinate work and persons for Gas Industry pipelines (Distribution), indicated by the following:

- personnel requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists.

G 3.2.4 Liaise and communicate with relevant authorities

Evidence shall show an ability to liaise with relevant authorities in preparation of plans for commissioning/decommissioning Gas Industry pipelines (Distribution), specifically:

- Legislative, OHS and environmental requirements applicable to a specific commissioning/decommissioning of a pipeline
- Authorities that need to be contacted when planning the commissioning/decommissioning of pipeline
- Requirements and procedures to obtain approvals/permits from relevant authorities
- Requirements for advising relevant authorities of intended activities
- Accurate and complete records of all communications with relevant authorities

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 3.2.9 Undertake final inspections

Evidence shall show an understanding of the inspection process in commissioning and decommission of Gas Industry pipelines (Distribution), indicated by the following:

- Identification of the code requirements that must be met
- Follow procedures to monitor valves and regulators
- Follow procedures and assess the quality of work

G 3.2.10 Notify of completion of work

Evidence shall show an understanding of the evidence required for the notification of the completion of work in the commissioning/decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Complete and process documentation when the work is completed
- Notify appropriate authorities/councils in relation to site reinstatement requirements using appropriate documentation
- Record and complete amendments to drawings and plans as required
- Record and report system condition in accordance with procedures.
- Sign off risk assessments and work permits as required by procedures

G 3.2.15 Conduct repairs and make amendments or modifications as required

Evidence shall show an understanding of the requirements to conduct repairs and make amendments or modifications as necessary on a Gas Industry pipeline (Distribution) systems, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Conduct repairs with appropriate tools and equipment according to established work procedures
- Comply with procedures when evaluating and implementing amendments or modifications
- Comply with procedures to assess the quality of work and ensure compliance with procedures, legislative and environmental requirements

G 3.2.20 Prepare work site for repairs/modification work

Evidence shall show an understanding of the preparation of Gas Industry (Distribution) workplaces for repairs/modifications work, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures

- Determine strategies for maintaining supply
- Comply with procedures for locating services on the worksite
- Identify and control possible sources of ignition
- Identify communications protocols and requirements
- Prepare procedures for the coordination of site activities
- Maintain records of communications with relevant third parties

G 3.2.50 Distribution pipeline surveillance procedures and practices

Evidence shall show an understanding of the requirements for the surveillance of distribution pipeline procedures and practices, indicated by the following:

- pipeline risk and how risk is treated
- above ground versus below ground pipe
- protection measures such as slabbing, extra cover, warning signage
- third party activities near pipe
- rural areas versus built-up areas in which a pipeline is located
- proximity to environmental significant areas
- leak detection
- pipeline coating integrity
- regularity of use
- type of fluid carried by the pipe and its design and operating pressure and temperature
- knowledge of Gas Industry legislation and its role under Road Management Act
- knowledge of easements and access rights for patrol men
- types of other fitting other than pipes that need monitoring, ie valves, CPS equipment etc
- knowledge of asset owner technical standards, ie clearances, use of explosives, hand proving, permit procedures, vegetation, fencing etc
- variation in surface condition
- impediments to access along a route
- building encroachment (clearances)
- issue of written patrolling procedures.

G 3.2.57 Perform routine maintenance on pipelines, facilities and equipment (up to and including 1050kPa)

Evidence shall show an understanding of performing routine maintenance on pipelines, facilities and equipment for a Gas Industry pipelines (Distribution), indicated by the following:

- Demonstrate different types of maintenance procedures appropriate for pipelines, facilities and equipment which includes valves, filters, meters and regulators, pressure reliefs, flanges and fittings, markers and signs
- Undertake maintenance procedures relevant to required work
- Use tools, instruments and all other equipment safely and effectively during the required maintenance tasks
- Undertake routine maintenance following manufacturer's specifications OHS requirements and procedures in an efficient and effective manner.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical

equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Operation of Dial Before You Dig (MOCS) services and how it applies to working or its equivalent near gas assets Different types of surveillance, i.e. vehicle, foot, aerial, watercraft Liaison with affected landowners and relevance of property visits Deteriorating conditions, i.e. visibility, warning signage

		Identification of leaks, damaged pipes and fittings and the recording of these in accordance with established procedures
B	All	Inspection techniques Identifying faults Recording information
C	All	Operating hand held tools Operating power tools Lifting equipment Mechanical excavation equipment Electronic metering systems Recording systems Motorised equipment Communication equipment
D	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Apply job safety analysis Apply working knowledge of AS2865 Maintain a safe and clean workplace Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace Apply basic planning and job completion skills Use of technology

E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in gas distribution pipeline surveillance.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment

and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to gas pipeline surveillance.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section.

Areas to be monitored

Inspection of areas

System's pipe work

Structures

Fittings

Organisational and statutory requirements (3)

Recording and reporting

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG209B First on site emergency response on a distribution pipeline

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard shall cover the responding to a call from internal or external stakeholder to confirm status of pipeline emergency and take first on site response activities. This person is directly responsible for managing site response with the following priorities: protect human life, reduce trauma, maintain systems safety, ensure system supply, protect the environment and protect property. The competency standard is applied against the procedures found under the latest edition of AS 1697 Australian and New Zealand Standard. Includes Tools and equipment, Maps and Drawings, Established Procedures, PPE and First Aid Equipment, Traffic Control, Emergency response manuals, Security Breach Investigation Practices.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly

License to practice **3)**

related to Occupational Health and Safety, Gas Industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to perform first on site emergency response	1.1	Specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.3	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.4	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.5	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.6	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.7	Liaison and communication issues with authorised persons, authorities, clients and land-owners are resolved and activities coordinated to carry out work
	1.8	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with

ELEMENT	PERFORMANCE CRITERIA	
		establish procedures
	1.9	Status of the system is sought through communication with pipeline control centre in accordance with established procedures
2 Carry out first on site emergency response	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the authorised persons for directions according to established procedures
	2.5	Operating conditions of equipment are monitored through gauge levels, temperatures, flow indicators in order to determine performance of equipment and system
	2.6	Negotiation processes with third parties concerning the threat to the pipeline occurs to ensure the pipeline can be monitored.
	2.7	Liaison, where appropriate is performed with emergency authorities to ensure the safety of the public and property
	2.8	Preliminary evidence is collected from the scene as per established procedures
	2.9	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that is required according to requirements and established procedures
	2.10	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a

ELEMENT	PERFORMANCE CRITERIA	
		minimum of waste according to requirements
	2.11	Solutions to non-routine problems are identified and actioned using acquired Essential Knowledge and Associated Skills according to requirements
	2.12	Ongoing checks of work quality are undertaken in accordance with requirements and established procedures to ensure a quality like outcome is achieved for the client and to a community and industry standard
3 Review, record and report first on site emergency response	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies which are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off accordance with requirements
	3.6	Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired for first on site emergency response on a distribution pipeline.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G209 Distribution pipeline first on scene emergency response B

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to

contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)

- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.34 The selection, the use and application of materials

Evidence shall show an understanding and ability to use correct tools, materials and equipment to undertake work on a gas industry workplace, indicated by the following:

- Appropriate tools, materials and equipment are identified for preparing the site, excavating trenches and reinstating the site
- Safety requirements for using tools, materials and equipment
- Correct use of appropriate PPE
- Procedures for using, cleaning and storing tools, materials and equipment
- Procedures for checking tools, materials and equipment
- Reporting faulty tools, materials and equipment

G 2.2.38 Reinstate site

Evidence shall show an understanding and ability to reinstate a gas industry excavation site, indicated by the following:

- An understanding of spotter/competent observer requirements
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Standard operating procedures to identify procedures for backfilling and consolidation
- Procedures for pipe padding/bedding
- Procedures for trench padding/bedding and compaction, backfilling and consolidations
- Trench and site restoration and reinstatement techniques including marker tape
- Ground surface level finishes
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 2.2.46 Use tools, plant and equipment relevant to the gas industry

Evidence shall show an ability to safely use tools, plant and

equipment relevant to the Gas Industry, indicated by the following:

- Identify the various types, uses and application of tools, plant and equipment used in the Gas Industry
- Understand and comply with manufacturer's guidelines for the correct use of tools, plant and equipment used in the Gas Industry
- Understand and comply with the enterprises procedures for the correct use of tools, plant and equipment used in the Gas Industry
- Understand and comply with all OHS requirements for the correct use of tools, plant and equipment used in the Gas Industry
- Comply with power safety rules when using electrically operated tools, plant and equipment
- Identify site hazards, assess risks and implement control measures when using tools, plant and equipment used in the Gas Industry
- Comply with good manual handling techniques when lifting, moving or storing tools, plant and equipment

Tools and equipment may include but not limited to drills, shovels, hammers, knives, saws, hand tools, small generator sets, air compressors and hoses, pneumatic and/or electric hammers, rollers and compactors, concrete and ceramic cutters, boring equipment, trenching equipment, etc.

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpreting Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical

drawings including, but not limited to:

- Process and Instrumentation Diagrams (PID)
- Facility and pipeline construction and as-built drawings
- Geographical Information System (GIS) drawings and data
- Electrical drawings
- Survey maps
- Pipeline route maps and alignment sheets

G 4.1.10 Understand security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.11 Follow emergency/incident control procedures

Evidence shall show an application of emergency/incident control procedures used for applicable gas infrastructure, indicated by the following:

- compliance with applicable enterprise emergency/incident control policies and procedures
- communication with relevant stakeholders
- application of relevant procedures

G 4.1.12 Follow evidence preservation and investigation techniques

Evidence shall show an application of site investigation and evidence gathering techniques, indicated by the following:

- investigating events
- maintaining integrity of site
- gathering evidence from site
- preserving evidence and site for further investigation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Identify threats to the integrity of distribution pipelines Evidence preservation process Evaluate threats that impact level of secondary response Control the escalation of threats to the public, environment, transmission pipelines and facilities Have a working knowledge of relevant sections of the latest edition of AS1697 Have a working knowledge of security breach procedures Have a working knowledge of emergency response manual Demonstrate the practical use of communications equipment
B	All	Interpret technical drawings and symbols Operation of gas detector Operate pipe locater Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Practical knowledge of the properties of product being transported Work safely with hazardous materials and equipment Apply safe manual

		handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 2
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions in the holistic assessment with the items listed above

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in context of specific resources for assessment, evidence should show demonstrated competency of first on site emergency response on a distribution pipeline.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to first on site emergency response and distribution pipeline.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Traffic control

Emergency response manuals

Security breach investigation practices

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG210B Supervise and monitor contract staff for work on distribution pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the supervision and monitoring of contractors working in the field. It requires the application of skills and knowledge to provide information, guidance and direction to contractors in the conduct of their duties. It does not cover the high levels of technical expertise required to actually perform the services but focuses on the key knowledge and skills required to supervise and monitor the process from a contractor management perspective. The competency standard is applied against the procedures found under the latest version of AS 1697 Australian and New Zealand Standard.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for supervising and monitoring contract staff	1.1 Works schedule(s), including drawings, plans, requirement, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	1.2 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3 Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5 OHS, environmental and sustainable energy policies and procedures are obtained and confirmed for the purposes of the work performed and communicated
	1.6 Relevant work permits are obtained to access and perform work according to requirements and

ELEMENT	PERFORMANCE CRITERIA	
		established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Contractual requirements, such as qualifications of personnel to perform the work, competency of the contractor, site induction and condition of equipment are confirmed
	1.9	Relevant persons at work site are confirmed to be current in First Aid and other related work procedures according to requirements
	1.10	Liaison and communication with authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
	1.11	Persons participating in the work are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with established procedures
	1.12	Site is prepared according to work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.13	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Monitor and supervise contractor activities.	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a

ELEMENT	PERFORMANCE CRITERIA	
		minimum of waste according to requirements
	2.4	Contractor activity is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the authorised persons for directions according to established procedures
	2.6	Solutions to non-routine problems are identified and actioned using acquired Essential Knowledge and Associated Skills according to requirements.
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	First Aid and other related work procedures are performed according to requirements and established procedures
	2.9	Ongoing checks of work quality are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved
3 Complete monitoring and supervision records.	3.1	Inspection of the contract job is checked against works schedule to determine conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Waste materials are safely disposed of and the work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned,

ELEMENT	PERFORMANCE CRITERIA
	checked and returned to storage in accordance with established procedures
	3.5 Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6 Data is accurately recorded and work completion records, reports as modified drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for supervising and monitoring contract staff for work on distribution pipelines.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G210B Distribution pipeline contract staff

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling

- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality

requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.21 Problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined

spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to

communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.2.32 Comply with requirements for excavating and reinstating site

Evidence shall show an understanding of the requirements for preparing, conducting and completing an excavation indicated by the following:

- Identifying plans, codes, standards and drawings relevant to specific worksites
- Reading and interpreting relevant plans, codes, standards and drawings
- Regulatory requirements and procedures for excavating trenches and reinstating sites
- Apply shoring or benching requirements
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.46 Use tools, plant and equipment relevant to the gas industry

Evidence shall show an ability to safely use tools, plant and equipment relevant to the Gas Industry, indicated by the following:

- Identify the various types, uses and application of tools, plant and equipment used in the Gas Industry

- Understand and comply with manufacturer's guidelines for the correct use of tools, plant and equipment used in the Gas Industry
- Understand and comply with the enterprises procedures for the correct use of tools, plant and equipment used in the Gas Industry
- Understand and comply with all OHS requirements for the correct use of tools, plant and equipment used in the Gas Industry
- Comply with power safety rules when using electrically operated tools, plant and equipment
- Identify site hazards, assess risks and implement control measures when using tools, plant and equipment used in the Gas Industry
- Comply with good manual handling techniques when lifting, moving or storing tools, plant and equipment

Tools and equipment may include but not limited to drills, shovels, hammers, knives, saws, hand tools, small generator sets, air compressors and hoses, pneumatic and/or electric hammers, rollers and compactors, concrete and ceramic cutters, boring equipment, trenching equipment, etc.

G 2.2.48 Prepare an excavation site

Evidence shall show an understanding and ability to prepare the site for excavation on a gas industry workplace, indicated by the following:

- Use of Dial Before you dig services
- Preparation of traffic management plans
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Communicating with third parties, colleagues and customers regarding the excavation site
- Reading and interpreting job specifications and standard operating procedures
- Grades and depth required for excavation of trenches for gas pipelines
- Techniques for marking out trench location

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 4.1.1 Operate and supervise in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies

- property/land owners (including traditional land owners) and tenants
- emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Have a working knowledge of the relevant sections of AS1697 Interpret technical drawings and symbols Ensure emergency response procedures in place Communicate schedules/coordinate to persons Carry out job safety analysis and inductions Obtain work permit Apply basic planning skills Work utilising relevant OHS and environmental legislation, regulations, codes of practice, policies and procedures. Maintain a safe clean workplace Contractor management Communicate effectively in the workplace Problem solving skills Maintain documentation Planning and organising
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in, Context of and specific resources for assessment, evidence should show demonstrated competency of supervising and monitoring contract staff for work on distribution pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to supervising and monitoring contract staff. The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Resources

Records/documentation

Safe working procedures

Operational

Relevant persons

Types of faults

Traffic control

Facility

Assessing risk

Competency

Gas/petrochemical liquid characteristics

Interpersonal skills

Permit to work

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG212A Construct, lay and connect a residential single point gas distribution service to a plastic main

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard unit covers appropriate excavation bed preparation and the construction and laying of a residential single point service, and connection to a plastic main. This includes the use of relevant tools and equipment, working safely using standard operating procedures, complying with relevant legislative requirements and completing necessary documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG102B	Carry out work activities in a utilities industry work environment
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
UEGNSG215A	Conduct excavations in the gas industry

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to construct and lay a residential single point service to a plastic main	1.1 Instructions for the preparation of the work activity are received and confirmed to ensure clear understanding
	1.2 OHS, environmental and sustainable energy policies and procedures are received and confirmed to ensure they are understood as to be applied in the carrying out of the work
	1.3 Equipment, plant, tools and personal protective equipment needed to construct and lay gas services are identified, scheduled and checked to ensure they work correctly as intended and are safe to use in accordance with established procedures
	1.4 Appropriate persons are consulted to ensure the work is coordinated effectively with others

ELEMENT	PERFORMANCE CRITERIA	
		involved
	1.5	Resources and materials needed to construct and lay gas services are confirmed, scheduled and obtained in accordance with established procedures
	1.6	Schedule of work including practices for working safely are confirmed in accordance with established procedures
2 Carry out construction and laying of a residential single point service to a plastic main	2.1	OHS policies and procedures and safe work practices required for constructing and laying gas services are followed to eliminate or minimise incidents and hazards
	2.2	Schedule of work is followed to ensure work is completed in an agreed time, to a quality standard and with a minimum of waste
	2.3	Operational knowledge for utilising correct and safe use of basic equipment and tools to perform work is confirmed to ensure completion in an agreed time and to a quality standard with a minimum of waste according to requirements and established procedures
	2.4	Further instructions are sought from appropriate persons for unplanned events or conditions occurring
	2.5	Excavation is prepared for laying of pipe according to appropriate standards and procedures
	2.6	Construction and laying of gas services are conducted according to appropriate standards and procedures
	2.7	Ongoing checks of quality of the work are undertaken in accordance with instructions and requirements

ELEMENT	PERFORMANCE CRITERIA
3 Complete construction and laying of a residential single point service to a plastic main	3.1 Final checks including appropriate tests are performed to ensure the quality of the work in relation to completing the construction and laying of services complies with established procedures and to requirements
	3.2 Appropriate persons are notified of completion of the work
	3.3 Equipment and tools and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.4 Work area is cleaned up and made safe and sustainable energy practices are followed
	3.5 Appropriate documentation and records are updated in accordance with instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work activities in a utilities industry work environment.

KS01-G212A Residential single point gas distribution service to a plastic main

G 2.2.12 Identify nylon or PVC pipeline, fittings and accessories

Evidence shall show an ability to identify the pipeline, fittings and accessories for nylon pipelines on a Gas Industry workplace, including:

- Characteristics of nylon or PVC pipeline, fittings and accessories
- Nylon or PVC pipe sizes, range of fitting and accessories.

- Situations in which a nylon or PVC pipeline is used
- Appropriate selection of transition fittings and adaptors to other materials
- Benefits of using a nylon or PVC pipeline
- Material cost versus Installation savings
- Differentiate nylon or PVC from other materials
- Awareness of solvent properties and benefits of current solvent over earlier versions
- Read and interpret MSDS applying appropriate measures

G 2.2.13 Join nylon or PVC pipeline and fittings

Evidence shall show an ability to join nylon or PVC pipes and fittings for a nylon or PVC pipeline on a Gas Industry workplace, indicated by the following:

- Selection and use of equipment, tools and materials required for joining nylon or PVC pipe, pipeline and fittings
- Demonstrate function and use of equipment, tools and materials
- Follow safety requirements and procedures for cutting and joining nylon or PVC pipe
- Undertake cutting and tapping procedures for nylon or PVC pipe using a variety of methods
- Pressure testing procedures
- Understand jointing requirements under various conditions, inclement weather etc
- Demonstrate procedures and safety requirements for joining nylon or PVC pipe to other pipelines

G 2.2.15 Determine depth of nylon or PVC pipeline in ground

Evidence shall show an ability to determine the depth at which a pipe should be inserted in the ground for a gas distribution pipeline in a Gas Industry workplace, specifically:

- Identify depth of cover required for nylon or PVC pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection.

G 2.2.16 Install nylon or PVC pipe

Evidence shall show an understanding of the requirements to install nylon or PVC on Gas Industry pipelines, including:

- Application of Australian Standards and Gas Industry standards for installing nylon or PVC pipeline
- Conditions for direct installation or insertion of pipeline
- Procedures for installing nylon or PVC pipeline, trace wire and marker tape
- Procedures for terminating nylon or PVC pipeline
- Understand the procedures for installation of nylon or PVC pipeline under various conditions
- Static Electricity in gas pipes

G 2.2.17 Install PE pipeline, fittings and accessories

Evidence shall show an ability to install polyethylene pipelines, fittings and accessories in a Gas Industry workplace, including an understanding of:

- Differentiate PE from other materials
- Situations in which a PE pipeline is used
- Advantages and disadvantages of using a PE pipeline
- Suppliers specifications
- Appropriate selection of transition fittings and adaptors to other materials
- Various couplings & service connection tees
- Characteristics of PE HP, MP and LP pipeline, fittings and accessories
- Dimensions for series 2 pipe - Gas (SDR) from AS/NZS 4130
- PE pipe sizes, range of fitting and accessories eg differences between PE80 and PE100
- Allowable pipe damage
- Static Electricity in gas PE pipes
- Procedures for installing (including insertion, drilling and open cut method) PE pipeline, trace wire and marker tape
- Read and interpret MSDS applying appropriate measures

G 2.2.18 Join PE pipes and fittings

Evidence shall show an understanding of the requirements to join PE pipes and fittings for Gas Industry pipelines, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Correct manual handling techniques
- Electrofusion safety requirements eg working in the rain
- Selection, purpose and use of equipment, tools and materials required for joining PE pipe, pipeline and fittings

- Pipe preparation
- Follow safety requirements and procedures for cutting and joining PE pipe
- Demonstrate function and use of equipment, tools and materials
  - Butt Fusion equipment small & Large
  - Saddle fusion equipment
  - Electro fusion equipment
  - Socket Fusion equipment
- Procedures for joining pipe of differing thickness
- Cooling time for moving pipe, tapping a saddle and pressure testing
- Identify the difference between a compliant and non-compliant joint
- Undertake cutting and tapping procedures for PE pipe using a variety of methods
- Pressure testing procedures
- Understand jointing procedures under various conditions, inclement weather and conditions
- Demonstrate procedures and safety requirements for joining PE pipe to other pipelines

G 2.2.27 Identify copper pipeline, fittings and accessories (only required in jurisdictions that have copper services)

Evidence shall show an understanding of the processes required to identify copper pipeline, fittings and accessories on a Gas Industry pipeline, indicated by the following:

- Characteristics of copper pipeline, fittings and accessories
- Copper pipe sizes, range of fitting and accessories.
- Situations in which a copper pipeline is used
- Appropriate selection of transition fittings and adaptors to other materials
- Differentiate copper from other materials
- Read and interpret MSDS applying appropriate measures

G 2.2.28 Bend and join copper pipeline and fittings (only required in jurisdictions that have copper services)

Evidence shall show an ability to bend and join copper pipe and fittings for a Gas Industry pipeline, indicated by the following:

- Equipment, tools and materials required for joining copper pipeline and fittings

- Purpose and function of equipment, tools and materials
- Safety requirements and procedures for cutting and joining copper pipeline including mechanical and soldered or welded joints
- Procedures for cutting and tapping copper pipeline
- Procedures for pressure testing a pipeline
- Procedures and safety requirements for joining copper pipeline to other pipeline
- Procedures for joining copper pipeline

G 2.2.30 Determine depth of copper pipeline in ground (only required in jurisdictions that have copper services)

Evidence shall show an ability to determine the appropriate depth that copper pipe should be laid in a trench for a Gas Industry pipeline, indicated by the following:

- Depth of cover requirements - AS1697
- Identify depth of cover required for copper pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection
- Trench widths
- Bedding requirements
- Support of copper pipe
- Backfilling requirements
- Reinstatement

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Complete Groups A & B. Complete at least one from Group from C & D, Complete Groups E, F, G.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Complete risk assessment/JSA Interpret technical drawings and symbols Isolate, vent and purge gas services Operation of gas detector Emergency response procedures
B	All	Practical application of AS4645.3 'gas distribution networks plastics pipe systems'
C	At least 3	Nylon (Polyamide) pipeline laying techniques Nylon gluing Connection of Nylon to other materials UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC compression couplings or flanges Connection of UPVC to other materials
D	At least 4	PE pipeline laying techniques PE Electrofusion PE Butt Fusion Compression couplings or

		flanges Connection of PE to other materials
E	All	Install services in accordance with procedures and with minimum impact on landscaping Connect and test services
F	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Working knowledge of AS2865 relevant confined compliance code
G	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in constructing and laying a distribution gas service to a plastic main.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the key competencies.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1 Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG102B Carry out work activities in a utilities industry work environment

UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
UEGNSG215A	Conduct excavations in the gas industry

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall/may be demonstrated in relation to carrying out work activities in a utilities industry work environment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Services (2)

Appropriate persons (2)

Materials (2)

Tools and equipment (2)

Safe working procedures (2)

Legislative requirements (2)

Standards

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution discipline.

UEGNSG213A Construct, lay and connect a residential single point gas distribution service to a metal main

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard unit covers appropriate excavation bed preparation and the construction and laying of residential single point service and connection to a metal main. This includes the use of relevant tools and equipment, working safely using standard operating procedures, complying with relevant legislative requirements and completing necessary documentation. This competency standard unit excludes any steel welding.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not

License to practice **3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEENEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG102B	Carry out work activities in a utilities industry work environment
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
UEGNSG212A	Construct, lay and connect a residential single point gas distribution service to a plastic main
UEGNSG215A	Conduct excavations in the gas industry

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to construct and lay a residential single point service to a metal main	1.1 Instructions for the preparation of the work activity are received and confirmed to ensure clear understanding
	1.2 OHS, environmental and sustainable energy policies and procedures are received and confirmed to ensure they are understood as to be applied in the carrying out of the work
	1.3 Equipment, plant, tools and personal protective equipment needed to construct and lay gas services are identified, scheduled and checked to ensure they work correctly as intended and are safe to use in accordance with established procedures
	1.4 Appropriate persons are consulted to ensure the work is coordinated effectively with others involved
	1.5 Resources and materials needed to construct and lay gas services are confirmed, scheduled and obtained in accordance with established procedures
	1.6 Schedule of work including practices for working safely are confirmed in accordance with established procedures
2 Carry out construction and laying of a residential single point service to a metal main	2.1 OHS policies and procedures and safe work practices required for constructing and laying gas services are followed to eliminate or minimise incidents and hazards
	2.2 Schedule of work is followed to ensure work is completed in an agreed time, to a quality standard and with a minimum of waste
	2.3 Operational knowledge for utilising correct and safe use of basic equipment and tools to perform work is confirmed to ensure completion in an agreed time and to a quality standard with a minimum of waste according to requirements

ELEMENT	PERFORMANCE CRITERIA	
		and established procedures
	2.4	Further instructions are sought from appropriate persons for unplanned events or conditions occurring
	2.5	Excavation is prepared for laying of pipe according to appropriate standards and procedures
	2.6	Construction and laying of gas services are conducted according to appropriate standards and procedures
	2.7	Ongoing checks of quality of the work are undertaken in accordance with instructions and requirements
3 Complete construction and laying of a residential single point service to a metal main	3.1	Final checks including appropriate tests are performed to ensure the quality of the work in relation to completing the construction and laying of services complies with established procedures and to requirements
	3.2	Appropriate persons are notified of completion of the work
	3.3	Equipment and tools and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.4	Work area is cleaned up and made safe and sustainable energy practices are followed
	3.5	Appropriate documentation and records are updated in accordance with instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work activities in a utilities industry work environment.

KS01-G213 A Residential single point gas distribution service to a metal main

G 2.2.12 Identify nylon or PVC pipeline, fittings and accessories

Evidence shall show an ability to identify the pipeline, fittings and accessories for nylon pipelines on a Gas Industry workplace, including:

- Characteristics of nylon or PVC pipeline, fittings and accessories
- Nylon or PVC pipe sizes, range of fitting and accessories.
- Situations in which a nylon or PVC pipeline is used
- Appropriate selection of transition fittings and adaptors to other materials
- Benefits of using a nylon or PVC pipeline
- Material cost versus Installation savings
- Differentiate nylon or PVC from other materials
- Awareness of solvent properties and benefits of current solvent over earlier versions
- Read and interpret MSDS applying appropriate measures

G 2.2.13 Join nylon or PVC pipeline and fittings

Evidence shall show an ability to join nylon or PVC pipes and fittings for a nylon or PVC pipeline on a Gas Industry workplace, indicated by the following:

- Selection and use of equipment, tools and materials required for joining nylon or PVC pipe, pipeline and fittings
- Demonstrate function and use of equipment, tools and materials
- Follow safety requirements and procedures for cutting and joining nylon or PVC pipe
- Undertake cutting and tapping procedures for nylon or PVC pipe using a variety of methods

- Pressure testing procedures
- Understand jointing requirements under various conditions, inclement weather etc
- Demonstrate procedures and safety requirements for joining nylon or PVC pipe to other pipelines

G 2.2.15 Determine depth of nylon or PVC pipeline in ground

Evidence shall show an ability to determine the depth at which a pipe should be inserted in the ground for a gas distribution pipeline in a Gas Industry workplace, specifically:

- Identify depth of cover required for nylon or PVC pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection.

G 2.2.16 Install nylon or PVC pipe

Evidence shall show an understanding of the requirements to install nylon or PVC on Gas Industry pipelines, including:

- Application of Australian Standards and Gas Industry standards for installing nylon or PVC pipeline
- Conditions for direct installation or insertion of pipeline
- Procedures for installing nylon or PVC pipeline, trace wire and marker tape
- Procedures for terminating nylon or PVC pipeline
- Understand the procedures for installation of nylon or PVC pipeline under various conditions
- Static Electricity in gas pipes

G 2.2.17 Install PE pipeline, fittings and accessories

Evidence shall show an ability to install polyethylene pipelines, fittings and accessories in a Gas Industry workplace, including an understanding of:

- Differentiate PE from other materials
- Situations in which a PE pipeline is used
- Advantages and disadvantages of using a PE pipeline
- Suppliers specifications
- Appropriate selection of transition fittings and adaptors to other materials
- Various couplings & service connection tees
- Characteristics of PE HP, MP and LP pipeline, fittings and accessories

- Dimensions for series 2 pipe - Gas (SDR) from AS/NZS 4130
- PE pipe sizes, range of fitting and accessories eg differences between PE80 and PE100
- Allowable pipe damage
- Static Electricity in gas PE pipes
- Procedures for installing (including insertion, drilling and open cut method) PE pipeline, trace wire and marker tape
- Read and interpret MSDS applying appropriate measures

G 2.2.18 Join PE pipes and fittings

Evidence shall show an understanding of the requirements to join PE pipes and fittings for Gas Industry pipelines, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Correct manual handling techniques
- Electrofusion safety requirements eg working in the rain
- Selection, purpose and use of equipment, tools and materials required for joining PE pipe, pipeline and fittings
- Pipe preparation
- Follow safety requirements and procedures for cutting and joining PE pipe
- Demonstrate function and use of equipment, tools and materials
  - Butt Fusion equipment small & Large
  - Saddle fusion equipment
  - Electro fusion equipment
  - Socket Fusion equipment
- Procedures for joining pipe of differing thickness
- Cooling time for moving pipe, tapping a saddle and pressure testing
- Identify the difference between a compliant and non-compliant joint
- Undertake cutting and tapping procedures for PE pipe using a variety of methods
- Pressure testing procedures
- Understand jointing procedures under various conditions, inclement weather and conditions
- Demonstrate procedures and safety requirements for joining PE pipe to other pipelines

G 2.2.20 Identify cast iron pipe and fittings

Evidence shall show an understanding of the knowledge required to install cast iron pipelines, fittings and accessories in a Gas Industry workplace, indicated by the following:

- Characteristics of cast iron pipeline, pipe sizes
- Situations in which a cast iron pipeline is used
- Range of fittings and accessories for cast iron
- Cast iron lead & hemp joints and how they are constructed
- Appropriate selection of transition fittings and adaptors to other materials
- Advantages/disadvantages in using cast iron pipe
- Read and interpret MSDS applying appropriate measures

G 2.2.21 Work with cast iron pipe and fittings

Evidence shall show an understanding of the requirements to work with cast iron pipelines and fittings on a Gas Industry pipeline, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Equipment, tools and materials required for working with cast iron pipelines
- Purpose and function or equipment, tools and materials
- Requirements of Australian Standards and gas industry standards for working with cast iron pipe and fittings
- Safety requirements and procedures for using equipment, tools and materials
- Procedures for joining cast iron pipeline to other pipeline

G 2.2.23 Install steel pipeline, fittings and accessories

Evidence shall show an understanding of the requirements to install steel pipelines, fittings and accessories in a Gas Industry workplace (distribution), indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Safety considerations when working on steel such as bonding leads and voltage testers
- Characteristics of steel pipeline, fittings and accessories
- Benefits of using a steel pipeline
- Steel pipe sizes, range of fitting and accessories.
- Situations in which a steel pipeline is used in the distribution network
- Appropriate selection of transition fittings and adaptors

to other materials
- Handling/Storage
- Cleaning internally
- Differentiate steel from other materials
- Corrosion mitigation
- Insulated joints
- Welding specifications
- Pressure testing
- Read and interpret MSDS applying appropriate measures
- Coating types and repair

G 2.2.24 Work with steel pipeline and fittings

Evidence shall show an understanding of the requirements to work with steel pipelines and fittings on a Gas Industry pipeline (distribution), indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Dangers of working with live gas
- Requirements of Australian Standards and Gas Industry standards for working with steel pipe and fittings
- Equipment, tools and materials required for working with steel pipelines
- Purpose and function of equipment, tools and materials
- Pipe cutting methods
- Stop off equipment for steel
- Safety requirements and procedures for using equipment, tools and materials
- Coating types and repair

G 2.2.26 Determine depth of steel pipeline in ground

Evidence shall show an ability to undertake the measurement of the depth that the pipeline should be buried on a Gas Industry pipeline (distribution), indicated by the following:

- Depth of cover requirements - AS1697
- Identify depth of cover required for steel pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection
- Trench widths
- Bedding requirements
- Support of steel pipe

- Backfilling requirements
- Reinstatement

G 2.2.27 Identify copper pipeline, fittings and accessories (only required in jurisdictions that have copper services)

Evidence shall show an understanding of the processes required to identify copper pipeline, fittings and accessories on a Gas Industry pipeline, indicated by the following:

- Characteristics of copper pipeline, fittings and accessories
- Copper pipe sizes, range of fitting and accessories.
- Situations in which a copper pipeline is used
- Appropriate selection of transition fittings and adaptors to other materials
- Differentiate copper from other materials
- Read and interpret MSDS applying appropriate measures

G 2.2.28 Bend and join copper pipeline and fittings (only required in jurisdictions that have copper services)

Evidence shall show an ability to bend and join copper pipe and fittings for a Gas Industry pipeline, indicated by the following:

- Equipment, tools and materials required for joining copper pipeline and fittings
- Purpose and function of equipment, tools and materials
- Safety requirements and procedures for cutting and joining copper pipeline including mechanical and soldered or welded joints
- Procedures for cutting and tapping copper pipeline
- Procedures for pressure testing a pipeline
- Procedures and safety requirements for joining copper pipeline to other pipeline
- Procedures for joining copper pipeline

G 2.2.30 Determine depth of copper pipeline in ground (only required in jurisdictions that have copper services)

Evidence shall show an ability to determine the appropriate depth that copper pipe should be laid in a trench for a Gas Industry pipeline, indicated by the following:

- Depth of cover requirements - AS1697
- Identify depth of cover required for copper pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the

depth of cover including transitioning to other approved materials and applying protection
- Trench widths
- Bedding requirements
- Support of copper pipe
- Backfilling requirements
- Reinstatement

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Complete Groups A & B, Complete at least one from Group from C & D, Complete Groups E, F, G, H, I.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Complete risk assessment/JSA Interpret technical drawings and symbols Isolate, vent and purge gas services Operation of gas detector Emergency response procedures
B	All	Practical application of

		AS4645.3 'gas distribution networks plastics pipe systems'
C	At least 3	Nylon (Polyamide) pipeline laying techniques Nylon gluing Connection of Nylon to other materials UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC compression couplings or flanges Connection of UPVC to other materials Connection of copper to other materials Silver brazing Copper bending
D	At least 4	PE pipeline laying techniques PE Electrofusion PE Butt Fusion Compression couplings or flanges Connection of PE to other materials
E	At least 2	Steel pipeline coating repair Steel pipeline coating testing Steel field joint coating
F	At least 3	Connection of steel to other materials Sleave application

		Clamp application Working knowledge of AS1697 'Installation and maintenance of steel pipe systems for gas'
G	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Working knowledge of AS2865 relevant confined compliance code
H	All	Install services in accordance with procedures and with minimum impact on landscaping Connect and test services
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in constructing and laying a distribution gas service to a metal main.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the key competencies.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1 Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG102B Carry out work activities in a utilities industry work environment

UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
UEGNSG215A	Conduct excavations in the gas industry
UEGNSG212A	Construct, lay and connect a residential single point gas distribution service to a plastic main

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall/may be demonstrated in relation to carrying out work activities in a utilities industry work environment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Services (2)

Appropriate persons (2)

Materials (2)

Tools and equipment (2)

Safe working procedures (2)

Legislative requirements (2)

Standards

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution discipline.

UEGNSG214A Construct and lay gas distribution mains

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard unit covers the undertaking of trench bed preparation and the construction and laying of mains piping. This includes the use of relevant tools and equipment, working safely using standard operating procedures, complying with relevant legislative requirements and completing necessary documentation. This competency standard unit excludes any welding of steel pipe work.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEENEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG102B	Carry out work activities in a utilities industry work environment
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
UEGNSG215A	Conduct excavations in the gas industry

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to construct and lay a gas industry main	1.1 Instructions for the preparation of the work activity are received and confirmed to ensure clear understanding
	1.2 OHS, environmental and sustainable energy policies and procedures are received and confirmed to ensure they are understood as to be applied in the carrying out of the work
	1.3 Equipment, plant, tools and personal protective equipment needed to construct and lay gas mains are identified, scheduled and checked to ensure they work correctly as intended and are safe to use in accordance with established procedures
	1.4 Appropriate persons are consulted to ensure the work is coordinated effectively with others involved
	1.5 Resources and materials needed to construct and lay gas mains are confirmed, scheduled and obtained in accordance with established

ELEMENT	PERFORMANCE CRITERIA	
		procedures
	1.6	Schedule of work including practices for working safely are confirmed in accordance with established procedures
2 Carry out the construction and laying of a gas industry main	2.1	OHS policies and procedures and safe work practices required for constructing and laying a main are followed to eliminate or minimise incidents and hazards
	2.2	Schedule of work is followed to ensure work is completed in an agreed time, to a quality standard and with a minimum of waste
	2.3	Operational knowledge for utilising correct and safe use of basic equipment and tools to perform work is confirmed to ensure completion in an agreed time and to a quality standard with a minimum of waste according to requirements and established procedures
	2.4	Further instructions are sought from appropriate persons for unplanned events or conditions occurring
	2.5	Trench is prepared for laying of pipe according to appropriate standards and procedures
	2.6	Construction and laying of gas industry main is conducted according to appropriate standards and procedures
	2.7	Ongoing checks of quality of the work are undertaken in accordance with instructions and requirements
3 Complete the construction and laying of a gas industry main	3.1	Final checks including appropriate tests are performed to ensure the quality of the work in relation to the construction and laying of gas mains complies with established procedures and to requirements
	3.2	Appropriate persons are notified of completion of the work
	3.3	Equipment and tools and any surplus resources and materials are, where appropriate, cleaned,

ELEMENT	PERFORMANCE CRITERIA
	checked and returned to storage in accordance with established procedures
	3.4 Work area is cleaned up and made safe and sustainable energy practices are followed
	3.5 Appropriate documentation and records are updated in accordance with instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work activities in a utilities industry work environment.

KS01-G214 Gas distribution plastic mains A

G 2.2.12 Identify nylon or PVC pipeline, fittings and accessories

Evidence shall show an ability to identify the pipeline, fittings and accessories for nylon pipelines on a Gas Industry workplace, including:

- Characteristics of nylon or PVC pipeline, fittings and accessories
- Nylon or PVC pipe sizes, range of fitting and accessories.
- Situations in which a nylon or PVC pipeline is used
- Appropriate selection of transition fittings and adaptors to other materials
- Benefits of using a nylon or PVC pipeline
- Material cost versus Installation savings
- Differentiate nylon or PVC from other materials
- Awareness of solvent properties and benefits of current solvent over earlier versions
- Read and interpret MSDS applying appropriate measures

G 2.2.13 Join nylon or PVC pipeline and fittings

Evidence shall show an ability to join nylon or PVC pipes and fittings for a nylon or PVC pipeline on a Gas Industry workplace, indicated by the following:

- Selection and use of equipment, tools and materials required for joining nylon or PVC pipe, pipeline and fittings
- Demonstrate function and use of equipment, tools and materials
- Follow safety requirements and procedures for cutting and joining nylon or PVC pipe
- Undertake cutting and tapping procedures for nylon or PVC pipe using a variety of methods
- Pressure testing procedures
- Understand jointing requirements under various conditions, inclement weather etc
- Demonstrate procedures and safety requirements for joining nylon or PVC pipe to other pipelines

G 2.2.15 Determine depth of nylon or PVC pipeline in ground

Evidence shall show an ability to determine the depth at which a pipe should be inserted in the ground for a gas distribution pipeline in a Gas Industry workplace, specifically:

- Identify depth of cover required for nylon or PVC pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection.

G 2.2.16 Install nylon or PVC pipe

Evidence shall show an understanding of the requirements to install nylon or PVC on Gas Industry pipelines, including:

- Application of Australian Standards and Gas Industry standards for installing nylon or PVC pipeline
- Conditions for direct installation or insertion of pipeline
- Procedures for installing nylon or PVC pipeline, trace wire and marker tape
- Procedures for terminating nylon or PVC pipeline
- Understand the procedures for installation of nylon or PVC pipeline under various conditions
- Static Electricity in gas pipes

G 2.2.17 Install PE pipeline, fittings and accessories

Evidence shall show an ability to install polyethylene pipelines, fittings and accessories in a Gas Industry workplace, including an understanding of:

- Differentiate PE from other materials
- Situations in which a PE pipeline is used
- Advantages and disadvantages of using a PE pipeline
- Suppliers specifications
- Appropriate selection of transition fittings and adaptors to other materials
- Various couplings & service connection tees
- Characteristics of PE HP, MP and LP pipeline, fittings and accessories
- Dimensions for series 2 pipe - Gas (SDR) from AS/NZS 4130
- PE pipe sizes, range of fitting and accessories eg differences between PE80 and PE100
- Allowable pipe damage
- Static Electricity in gas PE pipes
- Procedures for installing (including insertion, drilling and open cut method) PE pipeline, trace wire and marker tape
- Read and interpret MSDS applying appropriate measures

G 2.2.18 Join PE pipes and fittings

Evidence shall show an understanding of the requirements to join PE pipes and fittings for Gas Industry pipelines, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Correct manual handling techniques
- Electrofusion safety requirements eg working in the rain
- Selection, purpose and use of equipment, tools and materials required for joining PE pipe, pipeline and fittings
- Pipe preparation
- Follow safety requirements and procedures for cutting and joining PE pipe
- Demonstrate function and use of equipment, tools and materials
    - Butt Fusion equipment small & Large
    - Saddle fusion equipment
    - Electro fusion equipment
    - Socket Fusion equipment

- Procedures for joining pipe of differing thickness
- Cooling time for moving pipe, tapping a saddle and pressure testing
- Identify the difference between a compliant and non-compliant joint
- Undertake cutting and tapping procedures for PE pipe using a variety of methods
- Pressure testing procedures
- Understand jointing procedures under various conditions, inclement weather and conditions
- Demonstrate procedures and safety requirements for joining PE pipe to other pipelines

G 2.2.20 Identify cast iron pipe and fittings

Evidence shall show an understanding of the knowledge required to install cast iron pipelines, fittings and accessories in a Gas Industry workplace, indicated by the following:

- Characteristics of cast iron pipeline, pipe sizes
- Situations in which a cast iron pipeline is used
- Range of fittings and accessories for cast iron
- Cast iron lead & hemp joints and how they are constructed
- Appropriate selection of transition fittings and adaptors to other materials
- Advantages/disadvantages in using cast iron pipe
- Read and interpret MSDS applying appropriate measures

G 2.2.26 Determine depth of steel pipeline in ground

Evidence shall show an ability to undertake the measurement of the depth that the pipeline should be buried on a Gas Industry pipeline (distribution), indicated by the following:

- Depth of cover requirements - AS1697
- Identify depth of cover required for steel pipeline in various locations
- Identify obstacles affecting minimum depth of cover for pipeline
- Develop solutions for dealing with obstacles affecting the depth of cover including transitioning to other approved materials and applying protection
- Trench widths
- Bedding requirements
- Support of steel pipe
- Backfilling requirements
- Reinstatement

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Must do Group A & B. Must do one from groups C, D. Must do Groups E & F.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Interpret technical drawings and symbols Emergency response procedures
B	All	Practical application of AS4645.3 'gas distribution networks plastics pipe systems'
C	At least 3	Nylon (Polyamide) pipeline laying techniques Nylon gluing Connection of Nylon to other materials UPVC pipeline laying techniques UPVC solvent cemented joints UPVC moulded joints UPVC compression couplings or flanges Connection of UPVC to other materials
D	At least 4	PE pipeline laying techniques PE Electrofusion PE Butt Fusion Compression couplings or flanges Connection of PE to other materials
E	All	Work utilising relevant OHS legislation,

		regulations, codes of practice, policies and procedures Working knowledge of relevant confined space entry compliance code
F	All	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in constructing and laying gas distribution mains.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the key competencies.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1 Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
UEGNSG215A	Conduct excavations in the gas industry

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall/may be demonstrated in relation to carrying out work activities in a utilities industry work environment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Services (2)

Appropriate persons (2)

Materials (2)

Tools and equipment (2)

Safe working procedures (2)

Legislative requirements (2)

Standards

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution discipline.

UEGNSG215A Conduct excavations in the gas industry

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the requirements of performing excavations in the utilities industry. This competency standard covers the preparation and planning stages for excavation as well as the actual excavation. The planning process covers Dial Before you Dig, site preparation and traffic control. Included is the use of tools, plant and equipment PPE and basic visual and operation checks.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for the operating of plant and equipment to perform underground utilities excavation work	1.1	Work instructions are received and confirmed
	1.2	Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with operating support plant and equipment used for underground utilities services are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under the relevant work permit is received and confirmed according to requirements and established procedures with relevant persons
	1.7	Types of equipment, tools and personal protective equipment required for the job are obtained in working order and operated in accordance with manufacturer's specifications

ELEMENT	PERFORMANCE CRITERIA	
		and according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident.
	1.9	Client issues are referred to appropriate persons in accordance with industry and community standards
	1.10	Location of other services and site preparation is confirmed according to given instructions using the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals according to established procedures
	1.11	Road signs, barriers and warning devices are confirmed as positioned in accordance with given instructions and requirements including traffic management plans
2 Operate plant and equipment for underground utilities excavation work	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Site hazards such as lifting, climbing, working in confined spaces, excavations, trenches and/or aloft, use of power tools equipment, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to minimise OHS risks
	2.3	Operational knowledge for operating support plant and equipment used for underground utilities services is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Plant and equipment is used safely and in accordance with requirements and established

ELEMENT	PERFORMANCE CRITERIA	
		procedures
	2.5	Minor maintenance is undertaken to plant and equipment in accordance with requirements and established procedures
	2.6	Operating support plant and equipment used for underground utilities services are checked for faults and are used in accordance with given instructions and established procedures.
	2.7	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the authorised persons for directions according to established procedures
	2.8	Non-routine events are referred to the authorised persons for directions according to established procedures
	2.9	Problems associated with operating support plant and equipment used for underground utilities services are dealt with using known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.10	Ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Complete the operating of plant and equipment to perform underground utilities excavation work	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Backfilling is performed and the work site is rehabilitated, cleaned up and made safe in accordance with the work schedule, given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned,

ELEMENT	PERFORMANCE CRITERIA	
		checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion and all safety provisions for isolation or lock out are implemented according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for used for underground utilities services and to carry out excavation work.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G215A Underground excavation plant and equipment

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including

identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using

correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the worksite

Evidence shall show knowledge and skills in coordinating

traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry

forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform

work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
- Understanding and compliance with enterprise procedures for flora control
- erosion control
- fauna control
- the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.2.5 Read and interpret specifications

Evidence shall show an ability to read and interpret

specifications found in drawings and procedures used in a Gas Industry workplace, indicated by the following:

- Interpret specifications including material types and units of measure
- Interpret gas specifications such as pressure ratings and class of pipe and fittings
- Understand the need to use only approved/specified materials

G 2.2.32 Comply with requirements for excavating and reinstating site

Evidence shall show an understanding of the requirements for preparing, conducting and completing an excavation indicated by the following:

- Identifying plans, codes, standards and drawings relevant to specific worksites
- Reading and interpreting relevant plans, codes, standards and drawings
- Regulatory requirements and procedures for excavating trenches and reinstating sites
- Apply shoring or benching requirements
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.34 The selection, the use and application of materials

Evidence shall show an understanding and ability to use correct tools, materials and equipment to undertake work on a gas industry workplace, indicated by the following:

- Appropriate tools, materials and equipment are identified for preparing the site, excavating trenches and reinstating the site
- Safety requirements for using tools, materials and

equipment
- Correct use of appropriate PPE
- Procedures for using, cleaning and storing tools, materials and equipment
- Procedures for checking tools, materials and equipment
- Reporting faulty tools, materials and equipment

G 2.2.37 Excavate trenches

Evidence shall show an understanding of the excavation of a Gas Industry workplace trench, indicated by the following:

- An understanding of spotter/competent observer requirements
- Identify environmental and safety hazards, assess risks and implement control measures
- Safety requirements and procedures for excavating and shoring trenches in a variety of conditions surface types, soil types, weather, traffic, time of day, location
- Regulations and requirements for working in confined spaces and shoring
- Purpose and techniques of excavation in excavating trenches, shoring, battering and exposing other services
- Understand depth and grade of trench requirements against specifications
- Use a variety of excavation and shoring techniques to suit varying conditions (surface types, soil types, weather, traffic, time of day, location)
- Demonstrate understanding of when to manually excavate instead of mechanical excavation

G 2.2.38 Reinstate site

Evidence shall show an understanding and ability to reinstate a gas industry excavation site, indicated by the following:

- An understanding of spotter/competent observer requirements
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Standard operating procedures to identify procedures for backfilling and consolidation
- Procedures for pipe padding/bedding
- Procedures for trench padding/bedding and compaction, backfilling and consolidations
- Trench and site restoration and reinstatement techniques including marker tape
- Ground surface level finishes
- Notification of appropriate authorities and requirements

for temporary or permanent restorations

G 2.2.41 Boring and Drilling Operations

Evidence shall show an ability to perform boring and drilling operations, indicated by the following:

- Use of dial before you dig services
- An understanding of the environmental benefits of using underground boring machines
- An understanding of when boring machines would be preferred over trenching methods
- An understanding of spotter/competent observer requirements
- Use of electronic and manual service locators
- Identify environmental and safety hazards, assess risks and implement control measures
- Knowledge of the range of boring and drilling equipment and machinery
- Safety requirements and procedures for boring and drilling operations in a variety of conditions surface types, soil types, weather, traffic, time of day, location
- Regulations and requirements for working in confined spaces and shoring
- Trench and site restoration and reinstatement techniques including marker tape
- Ground surface level finishes
- Maintain a log/record of bored pipe

G 2.2.45 Read and Interpret Utilities Drawings and Diagrams

Evidence shall show a demonstrated ability to correctly identify, interpret and use drawings in Gas Industry workplaces, indicated by the following:

- Identify a range of plans and drawings typically used in the Gas Industry
- Identify the purpose and application of a range of drawings
- Identify commonly used symbols and abbreviations
- Read and interpret scales and legends
- Identify dimensions and orientations
- Identify accessibility of work site in relation to roadways
- Identify underground and overhead utilities and services such as gas, water, electricity supply and telecommunications
- Identify structures
- Identify key features from sectional details and

elevations
- Interpret horizontal and vertical measurements
- Apply drawings and diagrams in a three dimensional environment

G 2.2.46 Use tools, plant and equipment relevant to the gas industry

Evidence shall show an ability to safely use tools, plant and equipment relevant to the Gas Industry, indicated by the following:

- Identify the various types, uses and application of tools, plant and equipment used in the Gas Industry
- Understand and comply with manufacturer's guidelines for the correct use of tools, plant and equipment used in the Gas Industry
- Understand and comply with the enterprises procedures for the correct use of tools, plant and equipment used in the Gas Industry
- Understand and comply with all OHS requirements for the correct use of tools, plant and equipment used in the Gas Industry
- Comply with power safety rules when using electrically operated tools, plant and equipment
- Identify site hazards, assess risks and implement control measures when using tools, plant and equipment used in the Gas Industry
- Comply with good manual handling techniques when lifting, moving or storing tools, plant and equipment

Tools and equipment may include but not limited to drills, shovels, hammers, knives, saws, hand tools, small generator sets, air compressors and hoses, pneumatic and/or electric hammers, rollers and compactors, concrete and ceramic cutters, boring equipment, trenching equipment, etc.

G 2.2.47 Clean, check, store and maintain tools, plant and equipment used in the Gas Industry

Evidence shall show an understanding of the cleaning, checking, storage and maintenance of tools, plant and equipment relevant to the Gas Industry, indicated by the following:

- Understand and comply with manufacturer's guidelines for cleaning, checking, storing and maintaining tools, plant and equipment used in the Gas Industry
- Understand and comply with the enterprises procedures for cleaning, checking, storing and maintaining tools, plant and equipment used in the Gas Industry

- Understand and comply with all OHS requirements for cleaning, checking, storing and maintaining tools, plant and equipment used in the Gas Industry
- Comply with power safety rules when cleaning, checking, storing and maintaining electrically operated tools, plant and equipment
- Perform inspections and checks on tools, plant and equipment
- Perform minor repairs on tools, plant and equipment
- Identify service requirements for tools, plant and equipment
- Comply with good manual handling techniques when lifting, moving or storing tools, plant and equipment
- Understand and comply with licence requirements for specific tools and equipment

G 2.2.48 Prepare an excavation site

Evidence shall show an understanding and ability to prepare the site for excavation on a gas industry workplace, indicated by the following:

- Use of Dial Before you dig services
- Preparation of traffic management plans
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Communicating with third parties, colleagues and customers regarding the excavation site
- Reading and interpreting job specifications and standard operating procedures
- Grades and depth required for excavation of trenches for gas pipelines
- Techniques for marking out trench location

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	At least 4	Interpret alignment sheets, maps, technical drawings and symbols Service locators Gas detectors Traffic barricades Lighting Fire fighting equipment
B	At least 5	Small generator sets Air Compressors and hoses Pneumatic and/or electric hammers Rollers and compactors Concrete and ceramic cutters Boring equipment Trenching equipment
C	At least 4	Correctly interpret plans, drawings and maps Submit Dial Before You Dig application Obtain procedures and/or work instructions Correctly interpret instructions Advise stakeholders of upcoming work Prepare a safe work method statement of JHA Obtain all work permits as necessary
D	At least 5	Perform service location in the area Procure all materials and equipment

		Identify and control all possible environmental hazards Implement control measures for identified hazards Induct all site workers and explain all hazards Correct use of PPE appropriate to the Gas Industry Perform machinery daily log checks and verify operator qualifications
E	At least 3	Traffic control management Erect barricades Establish warning and safety signs Establish muster point where appropriate Complete permit
F	All	Relevant OHS legislation, regulations, codes of practice, policies and procedures are applied Maintain a safe, clean and healthy workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Appropriately respond to unplanned event Communicate effectively in the workplace Apply basic planning skills
G	At least one occasion	Deal with an unplanned

		event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of excavating for underground utilities services operating plant and equipment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential

Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit may be demonstrated in relation to excavations in the utilities industry.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Legislation (2)

Inspection (2)

Hand tools (2)

Power tools (2)

Plant and equipment (2)

Personal Protective Equipment (2)

OHS requirements (2)

Types of drawings (2)

Key features of site plans (2)

Key features of plans and elevations (2)

Types of structures (2)

Services (2)

Types of details (2)

Environmental features (2)

Orientation of the site (2)

Excavation tools (2)

Excavation (2)

RANGE STATEMENT

Surface reinstatements (2)

Backfill (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.

UEGNSG301B Coat gas pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Unit covers the undertaking of inspections, testing and coating of steel pipelines in a utilities industry workplace. It includes the use of testing and application equipment; coatings used; coating defect assessment surveys; MSDS information and handling of chemicals/flammable liquids.

Application of the Unit

Application of the Unit

2)

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice

3.1)

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training.

License to practice **3.1)**

Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	Writing	3
3	Numeracy	3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare pipelines for coatings, inspection and testing	1.1	Work instructions are received and confirmed
	1.2	Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with the correct and safe coating of pipelines are made to others involved in the work
	1.5	Appropriate persons are consulted to ensure the work is coordinated effectively and hazards identified, risks assessed, control measures identified, confirmed and reported according to established procedures
	1.6	Pipeline coating and related inspection and tests are planned for under the relevant work permit and confirmed according to requirements and established procedures with relevant persons
	1.7	Resources including equipment, tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to

ELEMENT	PERFORMANCE CRITERIA	
		ensure safety measures and followed in the instance of an incident
	1.9	Client issues are referred to appropriate persons in accordance with industry and community standards
	1.10	Site is prepared according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Inspect, test and coat pipeline	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for the coating of pipelines is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Pipeline coatings are visually inspected to determine condition in accordance with given instructions and established procedures
	2.5	Pipeline is tested to determine condition in accordance with requirements and established procedures
	2.6	Pipeline is coated where required in accordance with established procedures
	2.7	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.8	Non-routine events are referred to the immediate authorised persons for directions according to

ELEMENT	PERFORMANCE CRITERIA	
		established procedures
	2.9	Information related to status and any irregularities are reported and recorded using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.10	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete inspection/test/coating of pipeline	3.1	Work area is isolated to enable repair to proceed against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Coating materials applied to the pipeline, work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the coating pipelines.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

G 2.1.1 Working in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups

REQUIRED SKILLS AND KNOWLEDGE

- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS legislation, regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Maintain safe, clean and healthy workplace

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers

REQUIRED SKILLS AND KNOWLEDGE

- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

REQUIRED SKILLS AND KNOWLEDGE

G 2.1.8 Control traffic at the work-site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret workplace documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents

REQUIRED SKILLS AND KNOWLEDGE

- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete routine workplace forms, memos and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activity

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and

REQUIRED SKILLS AND KNOWLEDGE

machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activity

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions

REQUIRED SKILLS AND KNOWLEDGE

- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

REQUIRED SKILLS AND KNOWLEDGE

G 2.1.25 Protect the environment

G 2.1.26 Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas

REQUIRED SKILLS AND KNOWLEDGE

Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.3.1 Identify pipeline coatings

Evidence shall show an understanding of the requirements to identify pipeline coating on a Gas Industry pipeline, indicated by the following:

- Pipeline coatings which include petroleum based wraps, epoxy, paints, PE jackets and sleeves
- Characteristics of various pipeline coatings

REQUIRED SKILLS AND KNOWLEDGE

- Reasons for using various pipeline coatings
- Reading and interpreting MSDS for related chemicals or flammable liquids
- Techniques for using chemical types safely

G 2.3.2 Describe OHS and environmental requirements

Evidence shall show an understanding of the OHS and environmental requirements associated with coating a Gas Industry pipeline, indicated by the following:

- OHS obligations and procedures for preparing and handling various pipeline coatings
- environmental regulations and requirements for preparing and handling various pipeline coatings
- OHS and Environmental regulations and procedures for disposing of waste pipeline coating materials.

G 2.3.3 Apply and test new coating

Evidence shall show an understanding of the application and testing of new coatings applied to a Gas Industry pipeline, indicated by the following:

- Manufacturer's specifications and organisation's procedures for coating pipelines which include petroleum based wraps, epoxy, paints, PE jackets and sleeves
- Materials and equipment required for coating pipelines
- Procedures for applying coating to pipeline
- Procedures for testing new coating

G 2.3.4 Determine pipeline locations

Evidence shall show an understanding of determining the pipeline locations for a Gas Industry pipeline, indicated by the following:

- Reading, interpreting and discussion of maps, plans, reports and/or specifications concerning the site location
- Topographical and geographical design

REQUIRED SKILLS AND KNOWLEDGE

principles
- Environmental information

G 2.3.5 Operate tools and equipment for testing/inspecting pipelines

Evidence shall show an understanding of the operation of tools and equipment for the testing and inspecting of pipeline on a Gas Industry pipeline, indicated by the following:

- tools and equipment used in inspecting/testing pipeline coatings
- functions and purpose of tools and equipment
- standard operating procedures and safety requirements for using tools and equipment.

G 2.3.6 Establish and reinstate work site for pipeline inspection and coating

Evidence shall show an understanding of the establishing and reinstating of a worksite for the inspection and coating of a Gas Industry pipeline, indicated by the following:

- safety requirements for establishing and reinstating worksite for pipeline inspection and coating
- environmental requirements for establishing and reinstating site
- equipment required for establishing and reinstating a site
- procedures for establishing and reinstating a worksite.

G 2.3.7 Inspect pipeline coating

Evidence shall show an understanding of the inspecting of pipeline coatings on a Gas Industry pipeline, indicated by the following:

- standard operating procedures for testing pipeline coatings
- coating defect assessment survey methods
- basic electrical principles and measurements
- irregularities, deviations or problems in pipeline coatings

REQUIRED SKILLS AND KNOWLEDGE

- writing of simple reports on status of pipeline.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

competency in this unit

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines UEG06'. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/materials/procedures/ workplaces/other variables		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 7	Abrasive blasting equipment Compressors Low voltage/high voltage holiday detectors Paint thickness coating gauges and meters

		Pipe wrapping machines Spray painting equipment Abrasive blast comparators and standards Densitometers Coating defect assessment survey equipment (DCVG method equipment, person technique method equipment) Hand/power tools Heating torch
B	All	Inspection of pipeline coatings Testing pipeline coatings Safe handling procedures for a range of dangerous and toxic chemicals and compounds OHS and environmental legislative requirements associated with the use, application and disposal of coating materials Coating defect assessment and application methods
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in coating gas pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the Key Competencies .

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety

	regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall/may be demonstrated in relation to the coating of gas pipelines.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Testing and application equipment (2)

Coatings (2)

Coating defect assessment surveys (2)

MSDS (2)

Unit Sector(s)

Not Applicable

Competency Field

Competency Field **11)**

Transmission.

Custom Content Section

Competency Field **12)**

Transmission.

UEGNSG302B Maintain pipeline easements

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers maintaining of pipeline easements. It encompasses the surveillance of the easement, which may be either performed by aerial or on the ground, to determine the condition of the easement and third party activity. It also includes any use of research documentation; civil activities; performance of pipeline easement and maintenance.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Prepare pipeline easement inspection and maintenance	1.1 Work instructions are received and confirmed
		1.2 Topographical and geographical maps are used to determine the selection of access and pipeline route and the work schedule checked for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
		1.3 OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
		1.4 Easement is inspected and assessed using appropriate mediums and civil activities to determine in accordance with standard operating procedures relevant requirements
		1.5 Discussion occurs with all persons to establish and confirm work schedule
		1.6 Suggestions to assist with maintaining pipeline easements are made to others involved in the work
		1.7 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
		1.8 Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with

ELEMENT	PERFORMANCE CRITERIA	
		relevant persons
	1.9	Resources including equipment such as aerial requirements, tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.10	Relevant responsibilities associated with First Aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
	1.11	Client issues are referred to appropriate persons in accordance with industry and community standards
2 Maintain pipeline easement and surrounding environment	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Work area is isolated and made safe and civil activities and maintenance of pipeline easements is carried out in accordance with given instructions and established procedures
	2.4	Easement is maintained and confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.5	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Remedial action associated with maintaining pipeline easements are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete pipeline easement and civil activities and notify appropriate persons	3.1	Pipeline easement is monitored to ensure pipeline integrity and the work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for maintaining pipeline easements to perform work in a utilities industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G302B Pipeline easements

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society

- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA’s, JSA’s, JSEA’s, SWM’s etc

- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work-site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry

workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks

- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally

appropriate manner

G 2.3.8 Apply relevant environmental regulations in maintaining pipeline easement

Evidence shall show an understanding of the relevant regulations for maintaining Gas Industry pipeline easements, indicated by the following:

- employer's responsibilities to relevant environmental regulations
- employee's responsibilities to relevant environmental regulations and organisation's policies and procedures
- relevant environmental regulations in maintaining pipeline easements.

G 2.3.9 Monitor civil activities

Evidence shall show an understanding of the monitoring of civil activities on a Gas Industry pipeline, indicated by the following:

- Civil works activities which may affect pipeline easement (laying geo-textile, gabion baskets, concreting, reseeding of environment, cased crossings, fauna and flora control)
- Standard operating procedures in relation to monitoring civil works activities
- Procedures for monitoring civil works activities
- Records of civil works activities in accordance with standard operating procedures

G 2.3.10 Use vegetation control techniques in maintaining pipeline easements

Evidence shall show an understanding of using vegetation control techniques for maintaining pipeline easements on a Gas Industry pipeline, indicated by the following:

- regulatory requirements for controlling vegetation
- procedures for monitoring vegetation control of pipeline easements
- efficient techniques for controlling vegetation
- OHS aspects for controlling vegetation.

G 2.3.11 Use erosion control techniques in maintaining pipeline easements

Evidence shall show an understanding of using erosion control techniques for maintaining pipeline easements on a Gas Industry pipeline, indicated by the following:

- regulatory requirements for controlling erosion

- procedures for monitoring erosion of pipeline easement
- efficient techniques for controlling erosion
- health and safety aspects of controlling erosion.

G 2.3.12 Determine access to pipeline

Evidence shall show an understanding of determining access to a Gas Industry pipeline, indicated by the following:

- topographical and geographical maps
- pipeline route and appropriate method for accessing pipeline
- access to pipeline.

G 2.3.13 Inspect pipeline easement

Evidence shall show an understanding of the inspection of pipeline easement on a Gas Industry pipeline, indicated by the following:

- procedures for inspecting pipeline easement
- evidence which indicates the need for maintenance to easement which includes vegetative controls, erosion, encroachment, third party activity, signage etc
- making judgments on type of maintenance required
- completing the necessary documentation.

G 2.3.14 Maintain pipeline easement

Evidence shall show an understanding of the maintenance of pipeline easement on a Gas Industry pipeline, indicated by the following:

- relevant standard operating procedures for maintaining the easement
- procedures for completing the maintenance activity
- appropriate tools and equipment required to complete the activity
- standards required for signage and/or gates
- relevant OHS and environmental procedures and practices
- using tools and equipment safely to maintain pipeline easements.

G 2.3.15 Liaise and communicate effectively with third partiesLiaise and communicate effectively with third parties

Evidence shall show an understanding of liaising and communicating effectively with third parties on a Gas Industry pipeline, indicated by the following:

- identifying third parties

- methods for maintaining liaison with third parties
- features of effective spoken and written communication with third parties
- advising third parties of intended activities
- meetings with third parties on notified issues
- record meetings.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing

on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	OHS and environmental legislative requirements Erosion control documentation Vegetation control documentation Pipeline alignment drawings Topographical maps Geographical maps Pipeline access route manuals MSDS information

B	All	Laying of geo-textile Gabion baskets Concreting Reseeding the environment Cased crossings Fauna and flora control Communicating with third parties
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit
- Appropriate environmental regulation and work practices
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills .

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the maintaining of pipeline easements.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Records/documentation (1)

Third parties (1)

Civil activities (1)

Reports (1)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG304B Commission or decommission gas transmission pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the commissioning and decommissioning of gas transmission pipelines. It encompasses the use of relevant tools and equipment; liaison with appropriate authorities; pipeline systems; pipeline control systems; testing.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan commissioning/decommissioning of gas transmission pipelines	1.1	Work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the commissioning and decommissioning of gas transmission pipelines are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Commission/decommission gas transmission pipelines	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to commissioning/ decommissioning of gas transmission pipelines to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Commissioning/decommissioning of gas transmission pipelines is carried out in accordance with the work schedule and to requirements/established procedures
	2.5	Hazard warnings and safety signs are recognised

ELEMENT	PERFORMANCE CRITERIA	
		and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Adjustments are made for unplanned events in commissioning/decommissioning of gas transmission pipelines are undertaken with the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Reports and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Inspect test and notify completion of commissioning/decommissioning gas distribution pipeline(s) work	3.1	Tools and equipment appropriate to the testing requirements are selected and work undertaken is checked against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Final inspections are undertaken and work completion records, reports and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the commissioning/decommissioning of gas transmission pipelines.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G304 Transmission pipeline commission and decommission B

G 3.2.1 Consulting appropriate persons to coordinate work and persons on a Gas Industry workplace

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons for Gas Industry pipelines (Distribution), indicated by the following:

- personnel requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists.

G 3.3.2 Obtain and check materials, tools and equipment necessary to complete the work

Evidence shall show an understanding of the checking of materials and tools to complete work on Gas Industry pipelines (Transmission), indicated by the following:

- relevant OHS and environmental requirements in relation to obtaining and organising required materials
- orders to ensure correct materials are specified
- procedures to identify correct pipes and fittings, purge substances and equipment
- calculation of purge volume and time.

G 3.3.3 Prepare plans for commissioning and decommissioning procedures

Evidence shall show an understanding of the preparation of

plans for commissioning and decommissioning procedures for Gas Industry pipelines (Transmission), indicated by the following:

- eliminate or contain identified hazards and dangers on site
- options for safety plans and non-routine procedures
- preparation of plans taking into consideration of requirements and the logical sequencing of procedures to be performed
- requirements for planning purge procedures
- requirements for ensuring security of supply.

G 3.3.4 Liaise and communicate with relevant authorities

Evidence shall show an understanding of liaising with the relevant authorities in relation to Gas Industry pipelines (Transmission), indicated by the following:

- legislative, OHS and environmental requirements applicable to a specific commissioning/decommissioning of a pipeline
- authorities that need to be contacted when planning the commissioning/decommissioning of pipeline
- requirements and procedures to obtain approvals/permits from relevant authorities
- requirements for advising relevant authorities of intended activities
- accurate and complete records of all communications with relevant authorities.

G 3.3.5 Bring/take pipeline system on/off line

Evidence shall show an understanding of bringing or taking the pipeline system off line for Gas Industry pipelines (Transmission), indicated by the following:

- procedures for establishing and maintaining a safe workplace to relevant OHS and environmental requirements
- relevant procedures for bringing/taking pipeline system on/off line
- current site emergency procedures
- procedures for purging the pipe system
- procedures for testing and sealing of pipes
- procedures to fit bypass apparatus.

G 3.3.6 Make required adjustments

Evidence shall show an understanding of making the required adjustments to a Gas Industry pipeline

(Transmission), indicated by the following:

- procedures for regulating and monitoring system pressure
- equipment faults and deficiencies in accordance with procedures.

G 3.3.7 Prepare reports

Evidence shall show an understanding of the preparing of reports applicable to Gas Industry pipelines (Transmission), indicated by the following:

- procedures and legislative requirements for maintaining appropriate reporting and recording systems
- job records and process information to appropriate/relevant department
- non-conformances and incidents in accordance with procedures and legislative requirements.

G 3.3.8 Select and use appropriate tools and equipment to test the pipeline system in accordance with procedures and legislative requirements

Evidence shall show an understanding of selecting and using of the appropriate tools and equipment to test pipeline systems in accordance with the appropriate procedures and legislative requirements, indicated by the following:

- appropriate tools and equipment to use for testing pipeline systems
- use of appropriate test equipment and test substances to accurately test, adjust, calibrate and repair systems
- interpreting test results to determine appropriate action
- records of all test results in accordance with procedures and legislative requirements.

G 3.3.9 Undertake final inspections

Evidence shall show an understanding of undertaking the inspection of Gas Industry pipelines (Transmission), indicated by the following:

- identification of the code requirements that must be met
- procedures to monitor electrical and electronic systems and valves and regulators
- procedures to follow and assess the quality of work.

G 3.3.10 Notify completion of work

Evidence shall show an understanding of the notification of completion of work procedures in Gas Industry pipelines (Transmission), indicated by the following:

- documentation to be completed and processed when the

work is completed
- authorities/councils that need to be notified in relation to site reinstatement
- recording and reporting system accurately and in accordance with procedures.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered

will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Relevant knowledge of AS 1697 Relevant knowledge of AS 2885 Relevant knowledge of AS 2865 Interpret technical drawings and symbols. Documentation complete/correct Approvals from authorities complete/correct. Emergency Response

		procedures Environmental Code of Practice applied. Communicate with other authorities and Stakeholders.
B	At Least 2	Steel pipeline coating repair Steel pipeline coating testing Steel field joint coating
C	All	Purging Procedures Compliance with AS 2885 Operation of Gas Detector Isolate, vent and purge gas pipeline systems Communication with authorities Environmental issues.
D	At Least 2	City Gate operation (Pressure Regulator knowledge) Line Valve operation Pressure control procedure
E	All	Basic understanding only: Trenching Shoring
F	All	Basic understanding only: Pipeline Cathodic Protection. Relevant electrical safety.
G	All	Pressure is according to specifications Final Inspections are carried out

		Site rehabilitation carried out Sign Off Procedures carried out
H	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in commission/decommissioning gas transmission pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to commissioning/decommissioning gas transmission pipelines.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate Persons (3)

Tools, Materials and Equipment (3)

Appropriate Authorities (3)

Pipeline Systems (3)

Documentation (3)

Tools, materials and equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG305B Coordinate gas transmission pipeline repair and modifications

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the coordination of gas transmission pipeline repair and modifications. Inspection and testing techniques are included for this competency standard. It encompasses identifying and attending to leaks which may be classified into Class 1 — repair until completed; Class 2 — repair within 8 days; Class 3 monitor, repair not economic; Class 4 — no leak found and includes coordinating and where appropriate undertaking the repair, modification and minor maintenance of equipment.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and plan for coordination of repairs and modifications of a gas transmission pipeline	1.1 Information concerning the identified repair/modification is conveyed to all parties and work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2 Necessary plans, specifications and other relevant information and established procedures for the work are communicated to all persons and identified for all work sites
	1.3 OHS, environmental and sustainable energy policies and procedures related to the coordinating of gas transmission pipeline repairs and modifications are obtained and confirmed for the purposes of the work performed and communicated
	1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept

ELEMENT	PERFORMANCE CRITERIA	
		clear according to established procedures
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Coordinate pipeline repairs or modifications for gas transmission pipelines	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
and notify completion of work	2.2	Lifting, climbing, working in confined spaces, excavations, trenches. or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills is applied to the coordinating of gas transmission

ELEMENT	PERFORMANCE CRITERIA	
		pipeline repairs and modifications to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Coordination of gas transmission pipeline repairs and modifications is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Repair work is monitored and unplanned events and amendments and modifications in the coordinating pipeline repair and modifications are undertaken with the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	All required testing procedures are followed and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Re-establish transmission pipeline to operational conditions and notify completion of work	3.1	System is re-established in order to meet transmission pipeline requirements and the work undertaken is checked against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned,

ELEMENT	PERFORMANCE CRITERIA	
		checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Records and drawings are updated to reflect repair/modifications and work completion records, reports as installed and documentation finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the coordination of gas transmission pipeline repair and modifications.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G305B Transmission pipeline repair and modification

G 3.3.11 Prepare for testing and inspection of pipeline system

Evidence shall show an understanding of the requirements to test and inspect a Gas Industry pipeline (Transmission) system, indicated by the following:

- procedures and the OHS and environmental requirements to be applied when carrying out testing and inspection on pipeline systems
- properties and characteristics of gas relevant to testing and inspection procedures
- classification of leaks and the relevant procedures associated with each class of leak.

G 3.3.12 Select and use appropriate tools and equipment to inspect

and test the pipeline system in accordance with procedures and legislative requirements

Evidence shall show an understanding of the selection and use of appropriate tools and equipment required to undertake the testing of a Gas Industry pipeline (Transmission) system, indicated by the following:

- various testing and inspection methods and their appropriate applications
- appropriate use of test and inspection equipment
- procedures to ensure that supply pressure is maintained
- procedures required to monitor gaseous atmosphere.

G 3.3.13 Record and interpret test data

Evidence shall show an understanding of the requirements to record and interpret test data for a Gas Industry pipeline (Transmission), indicated by the following:

- information that must be documented on completion of testing/inspection procedures
- diagnose and assess pipeline faults using test data
- analyse and interpret test data to initiate appropriate action
- use test data to correctly classify leaks for prioritising repairs
- requirements and procedures for advising relevant persons about test/inspection outcomes.

G 3.3.14 Monitor pipeline system during repair work

Evidence shall show an understanding of the requirements to monitor pipeline system during repair work on a Gas Industry pipeline (Transmission), indicated by the following:

- identification of the requirements to establish and maintain safe site conditions in accordance with procedures, environmental and OHS requirements
- procedures to conduct pressure monitoring
- manufacturer's maintenance specifications
- procedures to coordinate resources and prevent stoppages during repair work
- monitor impact of the work on environment, people and surrounds.

G 3.3.15 Carry out repair work and make amendments or modifications as required

Evidence shall show an understanding of the requirements to carry out repair work and to make amendments or modifications as necessary on a Gas Industry pipeline

(Transmission), indicated by the following:

- procedures, OHS and environmental requirements in relation to carrying out repair work
- conduct repair work with required tools and equipment following appropriate work procedures
- procedures to follow when evaluating and implementing amendments or modifications
- job progress in relation to repair work and/or amendments or modifications
- procedures to assess quality of work and compliance with procedures, legislative and environmental requirements.

G 3.3.16 Re-establish system and restore site

Evidence shall show an understanding of the reestablishment of the system and the restoration of the site on a Gas Industry pipeline (Transmission), specifically:

- confirm that repairs and modifications are completed
- demonstrate that procedures to re-establish the pipeline conditions are to full operational capabilities
- discuss the persons that need to be notified in relation to system reestablishment
- issue permits where required
- restore site in compliance with environmental, legislative and operational requirements.

G 3.3.17 Maintain records

Evidence shall show an understanding of the maintaining of records for the repair and modification of Gas Industry pipelines (Transmission), indicated by the following:

- identification of the documentation and information that is to be recorded
- completion and processing of job records and drawings accurately and in accordance with procedures.

G 3.3.18 Obtain information relevant to pipeline repair and modification

Evidence shall show an understanding of the need to obtain information relevant for the processes involved in the repairing or modification of Gas Industry pipelines (Transmission), indicated by the following:

- identification of problems from relevant information sources
- relevant documentation which includes plans, drawings, maps and specifications
- documentation to determine repair/modification

information, including affect on customer supply, extent of repair and quantities of items required.

G 3.3.19 Liaise and communicate with relevant parties

Evidence shall show an understanding of how to liaise and communicate with relevant parties involved in the repairing or modification of Gas Industry pipelines (Transmission), indicated by the following:

- discussion of the parties that require notification of repairs/modifications
- identification of specialists required for repair/modification work
- procedures to determine relevant areas of responsibilities
- issues that impact on communication with affected parties and appropriate persons.

G 3.3.20 Prepare work site for repairs/modifications work

Evidence shall show an understanding of the preparation of Gas Industry workplaces for repairs/modifications work, indicated by the following:

- legislative, OHS and environmental requirements relevant to establishing and maintaining a safe workplace
- options for maintaining supply
- procedures for locating other services on the worksite
- identification of possible ignition sources and the taking of appropriate action
- risk assessments of the worksite including OHS risks
- requirements for consulting relevant authorities and obtaining required approvals
- procedures for the coordination of all activities and persons
- maintenance of accurate and complete records of all communications with relevant authorities and persons.

G 3.3.21 Organise required equipment, materials and persons

Evidence shall show an understanding of the requirements to

organise equipment, materials and persons as required for a Gas Industry pipeline (Transmission), indicated by the following:

- procedures and legislative requirements relevant to obtaining equipment and materials
- interpretation of documentation to ensure correct equipment and materials are specified
- coordination of the deployment of required equipment, materials and persons on a worksite.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence

need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Relevant knowledge of AS 1697 Relevant knowledge of AS 2885 Relevant knowledge of AS 2865 Interpret technical drawings and symbols Documentation (permits, schedules) Risk assessment implemented Implementation of Safety

		Procedures Able to communicate instructions/schedules Approvals from authorities Emergency Response procedures Environmental Code of Practice applied Communicate with other authorities and Stakeholders
B	At Least 2	Basic knowledge of: Steel pipeline coating repair Steel pipeline coating testing Steel field joint coating
C	All	Purging a pipeline: Purging Procedures Relevant compliance with AS 2885 Operation of Gas Detector Isolating, venting and purging gas pipeline systems Communication with authorities Related environmental issues
D	At Least 2	Basic knowledge only: City Gate operation. Line Valve operation Pressure control procedure
E	All	Basic understanding only: Trenching Shoring

F	All	Basic understanding only: Pipeline Cathodic Protection. Relevant electrical safety
G	All	Re-commission pipeline. Pressure control procedure All testing of repairs checked/completed Pressure is according to specifications
H	All	Final Inspections are carried out Site rehabilitation/reinstatement carried out Drawings/plans updated Reports completed Sign Off Procedures carried out
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in coordinating gas transmission pipeline repair and modifications.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to coordinating gas transmission pipeline repair and modifications.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Inspection and testing techniques (3)

Leaks (3)

Repair and maintenance equipment(3)

Repair/modification techniques (3)

Documentation/records (3)

Tools, materials and equipment

Pipeline systems

Pipeline control systems

Appropriate authorities

Appropriate person

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG306B Pipeline pigging in gas transmission pipeline

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the assembly launch and recovery of PIGs in a gas transmission pipelines to correct and determine internal condition on pipeline. It also encompasses liaising with authorities; the analysis and interpretation of the data captured through the pigging process; using various types of PIGs; testing and inspecting; use of manufacturer's and legislative requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan for pigging and gas transmission pipeline	1.1	Transmission pipeline pigging operation is prepared and confirmed as per the work schedule(s), including drawings, plans, requirements and established procedures
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the launch and recovery of gas transmission pipeline PIG are identified and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work

ELEMENT	PERFORMANCE CRITERIA	
		procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Site PIG, and pipeline is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Launch, and recover transmission pipeline PIG	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills is applied to the launch and recovery of a gas transmission pipeline PIG to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Performing the launch and recovery of gas transmission pipeline PIG is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.6	Data/results from transmission pipeline pigging operations is gathered/retrieved and analysed to determine internal pipeline conditions in accordance with requirements and established procedures
	2.7	Tests and inspecting of the pipeline and pigging equipment is conducted in accordance with requirements and established procedures
	2.8	Unplanned events in the launch and recovery of a gas transmission pipeline PIG are undertaken with the scope of established procedures
	2.9	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.10	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Re-establish transmission pipeline to operational conditions and notify of completion of work	3.1	Inspection of the received PIG is undertaken to determine the wear sustained to the PIG material is checked against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Waste materials are safely disposed of and the work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements

ELEMENT	PERFORMANCE CRITERIA
	3.6 Data is accurately recorded and work completion records, reports as modified drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the launching and recovering of a pig.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G306B Transmission pipeline PIGging

G 3.3.38 Set up of pipeline for pigging

Evidence shall show an understanding of the correct pipeline set up for the launching and recovery of a PIG, indicated by the following:

- pipeline is set up correctly according to requirements
- appropriate authorities and persons are identified and notified according requirements.

G 3.3.39 Assembly and use of PIGs

Evidence shall show an understanding of how to assemble and launch and recover a PIG, indicated by the following:

- understanding the different types of PIGs available
- manufacturer's operating instructions
- legislative requirements for using PIGs.

G 3.3.40 Interpreting and analysing data captured by a PIG

Evidence shall show an understanding of the interpretation and analysing of the data captured through the pigging process, indicated by the following:

- data is interpreted and analysed correctly.

G 3.3.41 Select and use appropriate tools and equipment for PIGging

Evidence shall show an understanding of the requirements to select and use the appropriate tools and equipment for pigging, indicated by the following:

- testing and inspection methods and their appropriate applications
- appropriate use of test and inspection equipment.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence

need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Interpret technical drawings and symbols Emergency response procedures in place Communication with other authorities and stakeholders Communicate schedules/coordinate to persons Carry out job safety analysis Obtain work permit Use and interpret dial

		before you dig report Relevant knowledge of AS 2865
B	At least 3	Excavation Trenching Shoring Stitch bore Horizontal drilling Directional drilling
C	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
D	All	Isolate, vent and purge gas pipeline systems Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
E	`All	Prepare pig trap for launch Prepare trap for receiving Determine volume of water needed Install disc pig Carry out pigging operation Install foam pig Carry out pigging operation Pressure test pipeline
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions

		incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in, Context of and specific resources for assessment, evidence should show demonstrated competency of Pipeline pigging in gas transmission pipeline.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners

to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B	Maintain pipeline easements
UEGNSG329 A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on site emergency response on transmission pipeline
UEGNSG310B	Supervise and monitor contract work
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to launching and recovering PIGs in gas transmission pipelines.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Equipment (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG307B Perform routine maintenance on transmission pipeline facilities and equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the performance of minor maintenance of pipelines, facilities and associated equipment. This competency standard includes using equipment, tools and testing devices; identifying the types of faults; completing the appropriate documentation and reports in accordance with requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan for minor maintenance on transmission pipeline facilities and equipment	1.1	Work schedule including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the performing of routine maintenance of pipeline, facilities and equipment are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	The facilities/equipment are made safe by ensuring it is safely isolated, depressurised, tagged and locked out and a permit to work is obtained to access and perform work according to requirements and established procedures
	1.7	Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for the job are

ELEMENT	PERFORMANCE CRITERIA	
		identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Perform routine maintenance on transmission pipeline facilities and equipment	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills are applied to the performing of routine maintenance of pipeline, facilities and equipment to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Routine maintenance of distribution facilities and equipment is carried out in accordance with

ELEMENT	PERFORMANCE CRITERIA	
		the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Unplanned events in the performing of routine maintenance of transmission pipeline, facilities and equipment is undertaken with the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Routine maintenance is completed and results recorded and notified	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Work completion records, reports as installed, modified, drawings, documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for performing routine maintenance on transmission pipeline facilities and equipment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G307 Transmission pipeline facility and equipment maintenance B

G 3.3.22 Plan and prepare for low, medium and secondary pipeline inspection and testing procedures (above 1050kPa)

Evidence shall show an understanding of the requirements to plan and prepare for low, medium and secondary pipeline inspections and testing on a Gas Industry pipeline (Transmission), indicated by the following:

- relevant OHS procedures and environmental requirements in relation to preparing for inspection and testing procedures on low, medium and secondary pipelines, facilities and equipment
- planning requirements necessary to carry out inspection and testing procedures on low, medium and secondary pipelines, facilities and equipment
- identification of tools, instruments and equipment required for inspection and testing procedures on low, medium and secondary pipelines, facilities and equipment
- obtaining and interpreting various workshop manuals, part lists, checklists and specifications as required
- locate and discuss the use of appropriate emergency equipment.

G 3.3.23 Secure facilities/equipment prior to inspection and testing of low, medium and secondary pipelines, facilities and equipment (above 1050kPa)

Evidence shall show an understanding of the requirements to secure facilities and equipment for inspection and testing of

low, medium and secondary pipelines, facilities and equipment on a Gas Industry pipeline (Transmission), indicated by the following:

- discussion of the requirements for safety plans and non-routine procedures
- identification of precautions and concerns relevant to the inspection and testing being carried out
- demonstration of the procedures to safely isolate, depressurise, tag and lockout facilities and equipment
- adherence to procedures, OHS, legislative and environmental requirements.

G 3.3.24 Inspect and test low, medium and secondary pipelines, facilities and equipment (above 1050kPa) in accordance with procedures, OHS and environmental requirements

Evidence shall show an understanding of the requirements to inspect and test low, medium and secondary pipelines, facilities and equipment in accordance with procedures, OHS and environmental requirements, indicated by the following:

- identification of types of pipeline, facilities and equipment to be inspected and tested
- types of faults and their characteristics that may be encountered during inspection and testing procedures of pipelines, facilities and equipment
- characteristics of the operating capabilities and limitations of tools and equipment used to inspect and test pipelines, facilities and equipment
- carrying out of inspection and testing of pipelines, facilities and equipment in accordance with procedures, OHS and environmental requirements.

G 3.3.25 Correctly diagnose and assess faults of low, medium and secondary pipelines, facilities and equipment (above 1050kPa)

Evidence shall show an understanding of the requirements to correctly diagnose and assess faults of low, medium and secondary pipeline, facilities and equipment, indicated by the following:

- methods available for fault finding and trouble shooting to determine what maintenance is required.
- evaluation of the condition of operational systems equipment for safety and serviceability
- identification of required maintenance
- communicate and document the required findings/actions using the appropriate reporting and recording systems.

G 3.3.26 Plan and prepare for high pressure pipeline inspection and testing procedures

Evidence shall show an understanding of the requirements to plan and prepare for high pressure pipeline inspection and testing procedures for a Gas Industry pipeline (Transmission), indicated by the following:

- explanation of relevant OHS, procedures and environmental requirements in relation to preparing for inspection and testing procedures for high pressure pipelines, facilities and equipment
- planning requirements necessary to carry out inspection and testing procedures on high pressure pipelines, facilities and equipment
- tools, instruments and equipment required for inspection and testing procedures on high pressure pipelines, facilities and equipment
- workshop manuals, part lists, check lists and specifications required
- appropriate emergency equipment.

G 3.3.27 Secure facilities/equipment prior to inspection and testing of high pressure pipelines, facilities and equipment

Evidence shall show an understanding of the requirements to secure facilities and equipment prior to the inspection and testing of high pressure Gas Industry pipeline (Transmission), facilities and equipment, indicated by the following:

- requirements for safety plans and non-routine procedures
- precautions and concerns relevant to the inspection/testing being carried out
- procedures to safely isolate, depressurise, tag and lockout facilities/equipment
- procedures, OHS legislative and environmental requirements.

G 3.3.28 Inspect and test high pressure pipelines, facilities and equipment in accordance with procedures, OHS and environmental requirements

Evidence shall show an understanding of the requirements to Inspect and test high pressure pipelines, facilities and equipment in accordance with procedures, OHS and environmental requirements, indicated by the following:

- requirements for safety inspecting and testing high pressure pipelines, facilities and equipment
- precautions and concerns relevant to the

inspection/testing being carried out
- procedures to safely isolate, and safely inspect and test high pressure pipelines, facilities and equipment
- OHS legislative and environmental requirements related to inspecting and testing high pressure pipelines, facilities and equipment.

G 3.3.29 Correctly diagnose and assess faults of high pressure pipelines, facilities and equipment

Evidence shall show an understanding of how to correctly diagnose and assess faults of high pressure pipelines, facilities and equipment on a Gas Industry pipeline (Transmission), indicated by the following:

- methods available for fault finding and troubleshooting to determine what maintenance is required
- condition of operational systems equipment for safety and serviceability
- identifying the required maintenance
- communicating and documenting the required findings/actions using the appropriate reporting and recording systems.

G 3.3.30 Plan and prepare for routine maintenance on low, medium and secondary pipelines, facilities and equipment (above 1050kPa)

Evidence shall show an understanding of how to plan and prepare for routine maintenance of low, medium and secondary pipelines, facilities and equipment on a Gas Industry pipeline (Transmission), indicated by the following:

- maintenance work to be carried out, the required equipment and materials and the relevant manufacturer's specifications and procedures
- OHS and environmental requirements applicable to the work area
- relevant plans, drawings and written information required to perform maintenance
- preparation of equipment including the adjusting and calibration to ensure high performance operation.

G 3.3.31 Secure work area prior to maintenance of low, medium and secondary pipelines, facilities and equipment (above 1050kPa)

Evidence shall show an understanding of the requirements to secure work areas prior to maintenance of low, medium and secondary pipelines, facilities and equipment on a Gas Industry pipeline (Transmission), indicated by the following:

- identification and obtaining required permits
- preparation and securing of a work area in accordance with ohs and environmental requirements
- locating and using appropriate emergency equipment.

G 3.3.32 Perform routine maintenance on low, medium and secondary pipelines, facilities and equipment (above 1050kPa)

Evidence shall show an understanding of the performing routine maintenance on low, medium and secondary pipelines, facilities and equipment for a Gas Industry pipeline (Transmission), indicated by the following:

- different types of maintenance procedures appropriate for high pressure pipelines, facilities and equipment
- maintenance procedures relevant to required work
- tools, instruments and all other equipment safely and effectively during the required maintenance tasks
- routine maintenance following manufacturer's specifications OHS requirements and procedures in an efficient and effective manner.

G 3.3.33 Notify completion of work on low, medium and secondary pipelines, facilities and equipment (above 1050kPa)

Evidence shall show an understanding of the procedures for the notification of the completion of work on low, medium and secondary pipelines, facilities and equipment, indicated by the following:

- procedures for documenting and recording maintenance results
- notification of the relevant authorities in relation to completion of work in accordance with procedures
- completion of maintenance records including parts used, further maintenance requirements and time to next service
- cancel and sign off relevant work permits on completion of maintenance work
- clearance of work area of equipment, tools and materials.

G 3.3.34 Plan and prepare for routine maintenance of high pressure pipelines, facilities and equipment

Evidence shall show an understanding of the procedures required to plan and prepare for routine maintenance of high pressure pipelines and equipment on a Gas Industry pipeline (Transmission), indicated by the following:

- identification of the types of problems and faults that may require repair

- obtain, interpret and use the relevant technical drawings, plans and specifications during the preparation and planning of repair work
- identify hazards and explain the relevant OHS procedures and environmental requirements that require implementation prior to an during repair work
- identification of procedures, persons, equipment and processes required for repair work and plan the coordination of these resources
- obtain the required work permits
- locate and securing of emergency equipment and ensure all persons are familiar with emergency plans.

G 3.3.35 Secure work area and equipment prior to repair

Evidence shall show an understanding of the requirements to secure a work area and equipment prior to repair on a Gas Industry pipeline (Transmission), indicated by the following:

- requirements for, and use of, work permits, safety plans, non-routine procedures and safety checklists
- implementation and adherence to procedures, OHS and environmental requirements to ensure a safe worksite is established and maintained
- preparation of equipment for repair work ensuring it is depressurised, tagged and locked out
- routine checks and documentation of facilities/equipment and discuss overall repair process
- verification that facilities and equipment are safe for repair work to commence.

G 3.3.36 Perform routine maintenance on high pressure pipelines, facilities and equipment

Evidence shall show an understanding of the requirements to undertake the routine maintenance on high pressure pipeline, facilities and equipment, indicated by the following:

- different types of maintenance procedures appropriate for high pressure pipelines, facilities and equipment
- maintenance procedures relevant to the required work
- tools, instruments and all other equipment that is used safely and effectively during maintenance tasks
- routine maintenance following manufacturer's specification, OHS requirements and procedures in a efficient manner.

G 3.3.37 Notify completion of work on high pressure pipelines, facilities and equipment

Evidence shall show an understanding of the process for

completing work on high pressure pipelines, facilities and equipment, indicated by the following:

- procedures for documenting and recording maintenance results
- notifying the relevant authorities of completion of work in accordance with procedures
- maintenance records including parts used, further maintenance requirements and time to next service
- signing off of relevant work permit procedures
- cleaning up of work area equipment, tools and materials.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries

risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**

A	All	Relevant knowledge of AS 1697 Relevant knowledge of AS 2885 Relevant knowledge of AS 2865 Interpret technical drawings and symbols. Documentation (permits, schedules) Risk assessment implemented Implementation of Safety Procedures Able to communicate instructions/schedules Approvals from authorities Emergency Response procedures Environmental Code of Practice applied Communicate with other authorities and Stakeholders
B	At Least 2	Basic knowledge of: Steel pipeline coating repair Steel pipeline coating testing Steel field joint coating
C	All	Purging a pipeline: Purging Procedures Relevant compliance with AS 2885 Operation of Gas Detector Isolating, venting and purging gas pipeline systems

		Communication with authorities Related environmental issues
D	At Least 2	Basic knowledge only: City Gate operation. Line Valve operation Pressure control procedure
E	All	Basic understanding only: Trenching Shoring
F	All	Basic understanding only: Pipeline Cathodic Protection. Relevant electrical safety.
G	All	Re-commission pipeline. Pressure control procedure All testing of repairs checked/completed Pressure is according to specifications
H	All	Final Inspections are carried out Site rehabilitation/reinstatement carried out Drawings/plans updated Reports completed Sign Off Procedures carried out
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic

		assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit
- Appropriate environmental regulation and work practices.
- Appropriate organiAppropriate organisational requirements.sational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in performing routine maintenance on transmission pipeline facilities and equipment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners

to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B	Maintain pipeline easements
UEGNSG329 A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on site emergency response on a transmission pipeline
UEGNSG310B	Supervise and monitor contract work
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to perform routine maintenance on transmission pipeline facilities and equipment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Equipment (3)

Tools, equipment and testing devices (3)

Types of faults (3)

Documentation (3)

Reports (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG308B Identify, evaluate and control threats to transmission pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard covers the identification, evaluation and initial control of threats to the integrity of transmission pipelines. The competency standard is applied against the requirements found under the latest version of AS 2885.1 Australian and New Zealand Standard. The competency standard includes the use of tools and equipment; maps and drawings; established procedures; PPE and First Aid; traffic control.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where gas industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/ liquid /electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of

License to practice **3)**

persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to identify and evaluate control threats to a transmission pipeline	1.1	Works schedules, specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.8	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to

ELEMENT	PERFORMANCE CRITERIA	
		carry out work
	1.9	Persons participating in the work are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
2 Carry out the identification, evaluation and control of threats to a transmission pipeline	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.3	First Aid and other related work procedures are performed according to requirements and established procedures
	2.4	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.5	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.6	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.7	Negotiation processes with third parties concerning the threat to the pipeline are carried out to ensure the pipeline can be monitored
	2.8	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures
	2.9	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed

ELEMENT	PERFORMANCE CRITERIA	
		timeframe and to quality standards with a minimum of waste according to requirements
	2.10	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.11	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client to a community and industry standard
3 Review, record and report on identification, evaluation and control of threats to a transmission pipeline	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off in accordance with requirements
	3.6	Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for operating and monitoring pipeline control systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G308B Transmission pipeline threat control

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.2.32 Comply with requirements for excavating and reinstating site

Evidence shall show an understanding of the requirements for preparing, conducting and completing an excavation indicated by the following:

- Identifying plans, codes, standards and drawings relevant to specific worksites
- Reading and interpreting relevant plans, codes, standards and drawings
- Regulatory requirements and procedures for excavating trenches and reinstating sites
- Apply shoring or benching requirements
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.34 The selection, the use and application of materials

Evidence shall show an understanding and ability to use correct tools, materials and equipment to undertake work on a gas industry workplace, indicated by the following:

- Appropriate tools, materials and equipment are identified for preparing the site, excavating trenches and reinstating the site
- Safety requirements for using tools, materials and equipment
- Correct use of appropriate PPE
- Procedures for using, cleaning and storing tools, materials and equipment
- Procedures for checking tools, materials and equipment
- Reporting faulty tools, materials and equipment

G 3.4.5 Interpreting topographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

G 4.1.1 Operating and supervising in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems

- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:

- workplace colleagues
- workplace managers
- relevant customers and suppliers
- regulatory bodies
- property/land owners (including traditional land owners) and tenants
- emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Identify threats to the integrity of transmission pipelines Evaluate threats to the integrity of transmission pipelines Initial control of threats to the integrity of transmission pipelines Working knowledge of coatings for corrosion protection Working knowledge of relevant sections the latest version of AS2885 Working knowledge of relevant sections of the latest version of AS2832 Working knowledge of external interference physical and procedural protection measures
B	All	Interpret technical drawings and symbols Operation of Gas detector Emergency Response procedures Operate pipe locater Use of and interpret Dial Before You Dig report or equivalent Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and

		equipment Apply safe manual handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in identifying, evaluating and controlling threats to transmission pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B Maintain pipeline easements

UEGNSG329A Gas transmission pipeline surveillance

UEGNSG309B First on site emergency response on a transmission pipeline

UEGNSG310B Supervise and monitor contract work

UEGNSG311B Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to identifying, evaluating and controlling threats to transmission pipelines.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Traffic control

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG309B First on site emergency response on a transmission pipeline

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard shall cover the responding to a call from internal or external stakeholder to confirm status of a transmission pipeline emergency and take first on site response activities. This person is directly responsible for managing site response with the following priorities: protect human life, reduce trauma, maintain systems safety, ensure system supply, protect the environment and protect property. The competency standard is applied against the procedures found under the latest edition of AS 2885.3 Australian and New Zealand Standard. Includes Tools and equipment, Maps and Drawings, Established Procedures, PPE and First Aid Equipment, Traffic Control, Emergency response manuals, Security Breach Investigation Practices.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where gas/petrochemical liquid industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not

License to practice **3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/ petrochemical liquid industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to perform first on site emergency response	1.1	Specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.3	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.4	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.5	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.6	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.7	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.8	Persons participating in the work, including plant operators and contractors are fully briefed

ELEMENT	PERFORMANCE CRITERIA	
		and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.9	Status of the system is sought through communication with pipeline control centre in accordance with established procedures
2 Carry out first on site emergency response	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.5	Operating conditions of equipment are monitored through gauge levels, temperatures, flow indicators in order to determine performance of equipment and system
	2.6	Negotiation processes with third parties concerning the threat to the pipeline occurs to ensure the pipeline can be monitored
	2.7	Liaison, where appropriate is performed with emergency authorities to ensure the safety of the public and property
	2.8	Preliminary evidence is collected from the scene as per established procedures
	2.9	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.10	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.11	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.12	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client to a community and industry standard
3 Review, record and report on first on site emergency response	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off accordance with requirements
	3.6	Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for first on site emergency response.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G309 First on site emergency response B

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.34 The selection, the use and application of materials

Evidence shall show an understanding and ability to use correct tools, materials and equipment to undertake work on a gas industry workplace, indicated by the following:

- Appropriate tools, materials and equipment are identified for preparing the site, excavating trenches and reinstating the site
- Safety requirements for using tools, materials and equipment
- Correct use of appropriate PPE
- Procedures for using, cleaning and storing tools, materials and equipment
- Procedures for checking tools, materials and equipment
- Reporting faulty tools, materials and equipment

G 2.2.38 Reinstate site

Evidence shall show an understanding and ability to reinstate a gas industry excavation site, indicated by the following:

- An understanding of spotter/competent observer requirements
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Standard operating procedures to identify procedures for backfilling and consolidation
- Procedures for pipe padding/bedding
- Procedures for trench padding/bedding and compaction, backfilling and consolidations
- Trench and site restoration and reinstatement techniques including marker tape
- Ground surface level finishes
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 3.4.5 Interpreting topographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials,

indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the

following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of

completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.10 Understand security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.11 Follow emergency/incident control procedures

Evidence shall show an application of emergency/incident control procedures used for applicable gas infrastructure, indicated by the following:

- compliance with applicable enterprise emergency/incident control policies and procedures
- communication with relevant stakeholders
- application of relevant procedures

G 4.1.12 Follow evidence preservation and investigation techniques

Evidence shall show an application of site investigation and evidence gathering techniques, indicated by the following:

- investigating events

- maintaining integrity of site
- gathering evidence from site
- preserving evidence and site for further investigation.

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.
-
- Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation

- power in negotiation
- ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the

assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**

A	All	Identify threats to the integrity of transmission pipelines Evidence preservation process Evaluate threats that impact level of secondary response Control of the escalation of threats to the public, environment, transmission pipelines and facilities Working knowledge of relevant sections the latest edition of AS2885 Working knowledge of security breach procedures Working knowledge of emergency response manual Demonstration of the practical use of communications equipment
B	All	Interpret technical drawings and symbols Operation of gas detector Operate pipe locater Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Practical knowledge of the properties of product being transported Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively

		in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 2
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in first on site emergency response.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B Maintain pipeline easements

UEGNSG329A Gas transmission pipeline surveillance

UEGNSG308B Identify, evaluate and control threats to transmission pipelines

UEGNSG310B Supervise and monitor contract staff

UEGNSG311B Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to first on site transmission pipeline emergency response.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Traffic control

Emergency response manuals

Security breach investigation practices

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG310B Supervise and monitor contract work

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the supervision and monitoring of contractors working on a transmission pipeline site. It requires the application of skills and knowledge to provide information, guidance and direction to contractors in the conduct of their duties. It does not cover the high levels of technical expertise required to actually perform the services but focuses on the key knowledge and skills required to supervise and monitor the process from a contractor management perspective. The competency standard is applied against the procedures found under the latest version of AS 2885.3 Australian and New Zealand Standard.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where gas/petrochemical liquid industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare for supervising and monitoring contract staff	1.1	Work schedule(s), including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures are obtained and confirmed for the purposes of the work performed and communicated
	1.6	Relevant work permits are obtained to access and perform work according to requirements and

ELEMENT	PERFORMANCE CRITERIA	
		established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Contractual requirements, such as qualifications of personnel to perform the work, competency of the contractor, site induction and condition of equipment are confirmed
	1.9	Relevant persons at work site are confirmed to be current in First Aid and other related work procedures according to requirements
	1.10	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.11	Persons participating in the work are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with established procedures
	1.12	Site is prepared according to work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.13	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Monitor and supervise contractor activities.	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills is applied to ensure completion in an agreed timeframe and to quality standards with a

ELEMENT	PERFORMANCE CRITERIA	
		minimum of waste according to requirements
	2.4	Contractor activity is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	First Aid and other related work procedures are performed according to requirements and established procedures.
	2.9	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved.
3 Complete monitoring and supervision records.	3.1	Inspection of the contract job is checked against works schedule to determine conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Waste materials are safely disposed of and the work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA
	3.5 Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6 Data is accurately recorded and work completion records, reports as modified drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for supervising and monitoring contract staff.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G310 B Transmission pipeline contract staff

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and

organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling

- Safe manual handling techniques
- Manual handling and risk management

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces

- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team

indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.2.32 Comply with requirements for excavating and reinstating site

Evidence shall show an understanding of the requirements for preparing, conducting and completing an excavation indicated by the following:

- Identifying plans, codes, standards and drawings relevant to specific worksites
- Reading and interpreting relevant plans, codes, standards and drawings
- Regulatory requirements and procedures for excavating trenches and reinstating sites
- Apply shoring or benching requirements
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.48 Prepare an excavation site

Evidence shall show an understanding and ability to prepare the site for excavation on a gas industry workplace, indicated by the following:

- Use of Dial Before you dig services
- Preparation of traffic management plans
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Communicating with third parties, colleagues and customers regarding the excavation site
- Reading and interpreting job specifications and standard operating procedures
- Grades and depth required for excavation of trenches for gas pipelines
- Techniques for marking out trench location

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.4.5 Interpreting topographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

G 4.1.1 Operate and supervise in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of

planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land

owners) and tenants
- emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational

Health and Safety systems and procedures

- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems

- negotiation with internal and external stakeholders
- the nature of negotiation
- strategy and tactics of bargaining
- pre-negotiation essentials
- communication in negotiation

- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Have a working knowledge of the relevant sections of AS2885 Interpret technical drawings and symbols Have emergency response procedures in place Communicate schedules/coordinate to persons Carry out job safety analysis and inductions Obtain work permit Relevant knowledge of the

		latest version of AS 2885.3 Australian and New Zealand Standard Apply basic planning skills Work utilising relevant OHS and environmental legislation, regulations, codes of practice, policies and procedures Maintain a safe clean workplace Contractor management Communicate effectively in the workplace Problem solving skills Maintain documentation Planning and organising
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in Context of and specific resources for assessment, evidence should show demonstrated competency in supervising and monitoring contract staff.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B Maintain pipeline easements

UEGNSG329A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on site emergency response on a transmission pipeline
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to supervising and monitoring contract staff on a transmission pipeline site.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Resources

Records/documentation

Safe working procedures

Operational

Relevant persons

Types of faults

Traffic control

Facility

Assessing risk

Competency

Gas/petrochemical liquid characteristics

Interpersonal skills

RANGE STATEMENT

Permit to work

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG311B Site control of third party works in the vicinity of a transmission pipeline

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit covers the control of all third party works in the vicinity of a transmission pipeline to ensure the integrity of the pipeline is not compromised. The competency standard is applied against the procedures found under the latest version of AS 2885.3 Australian and New Zealand Standard. Third party works would include excavation, seismic activities and the use of explosives, vibrating rollers and the effect of additional loads on the pipeline.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where gas and petrochemical liquids industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government

License to practice **3)**

legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to undertake site control of third party works in the vicinity of a transmission gas/ petrochemical liquids pipeline	1.1	Site is checked for specific hazards. Work schedule(s), specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and

ELEMENT	PERFORMANCE CRITERIA	
		requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed, inducted and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
2 Carry out site control of third party works in the vicinity of a transmission gas pipeline	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, techniques and practices are safely exercised according to requirements
	2.4	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Operating conditions of equipment are monitored
	2.7	Negotiation processes occur with third parties to control the threat to the pipeline
	2.8	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.9	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.10	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.11	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client to a community and industry standard
3 Complete site control of third party works in the vicinity of a transmission gas/ petrochemical liquids pipeline	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off accordance with requirements
	3.6	Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for site control of third party works in the vicinity of a transmission pipeline.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G311 Transmission pipeline third party B

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas

Industry

- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices

- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally

appropriate manner

G 2.2.34 The selection, the use and application of materials

Evidence shall show an understanding and ability to use correct tools, materials and equipment to undertake work on a gas industry workplace, indicated by the following:

- Appropriate tools, materials and equipment are identified for preparing the site, excavating trenches and reinstating the site
- Safety requirements for using tools, materials and equipment
- Correct use of appropriate PPE
- Procedures for using, cleaning and storing tools, materials and equipment
- Procedures for checking tools, materials and equipment
- Reporting faulty tools, materials and equipment

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.4.5 Interpreting topographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing

First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Identify threats to the integrity of transmission pipelines Evaluate threats to the integrity of transmission pipelines Initiate control of threats to the integrity of transmission pipelines Working knowledge of coatings for corrosion protection Working knowledge of relevant sections of the latest version of AS2885.3 Working knowledge of requirements and techniques for safe excavations Working knowledge of construction machinery Working knowledge of requirements for safe use of explosives near a pipeline Working knowledge of requirements for safe use vibrating rollers in the vicinity of a pipeline Working knowledge of requirements for safe loading on a pipeline Working knowledge of external interference physical and procedural protection measures
B	All	Interpret technical drawings and symbols Operation of gas detector

		Emergency response procedures Operate pipe locater Use of and interpret Dial Before You Dig report or its equivalent Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a

workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of site control of third party works in the vicinity of a transmission pipeline.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B	Maintain pipeline easements
UEGNSG329 A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on site emergency response on a transmission pipeline
UEGNSG310B	Supervise and monitor contract work

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to site control of third party works in the vicinity of a transmission pipeline.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Traffic control

Facility

Event

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG312B First response to a facility event

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

First response to an unplanned facility event as reported. Assess the situation and take appropriate action as directed in accordance with established procedures. This person is directly responsible for managing site response with the following priorities: protect human life, reduce trauma, maintain systems safety, ensure system supply, protect the environment and protect property. The competency standard is applied against the procedures found under the latest edition of AS 2885.3 Australian and New Zealand Standard. Facilities could include metering, compressors, valves, regulators, heaters, scraper, telemetry and odourisation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/ industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and

License to practice **3)**

training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to undertake first response to a facility event	1.1	Specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.3	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.4	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.5	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.6	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.7	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.8	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with

ELEMENT	PERFORMANCE CRITERIA	
		establish procedures
	1.9	Status of the system is sought through communication with pipeline control centre in accordance with established procedures
2 Carry out first response to a facility event	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Operating conditions of equipment are monitored through gauge levels, temperatures, flow indicators in order to determine performance of equipment and system
	2.7	Liaison, where appropriate is performed with emergency authorities to ensure the safety of the public and property
	2.8	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that is required according to requirements and established procedures
	2.9	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements

ELEMENT	PERFORMANCE CRITERIA	
	2.10	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.11	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client to a community and industry standard
3 Complete response to a facility event.	3.1	Work undertaken is checked against work schedules for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off accordance with requirements
	3.6	Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for first response to a facility event.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G312 Facility event response B

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas

Industry

- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices

- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by

the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.4.5 Interpreting topographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical

drawings including, but not limited to:

- Process and Instrumentation Diagrams (PID)
- Facility and pipeline construction and as-built drawings
- Geographical Information System (GIS) drawings and data
- Electrical drawings
- Survey maps
- Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.10 Understanding security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.11 Follow emergency/incident control procedures

Evidence shall show an application of emergency/incident control procedures used for applicable gas infrastructure, indicated by the following:

- compliance with applicable enterprise emergency/incident control policies and procedures
- communication with relevant stakeholders
- application of relevant procedures

G 4.1.13 Understand electrical fundamentals for the Gas Industry

Evidence shall show an understanding of electrical fundamentals required for Gas Industry workers and supervisors, indicated by the following:

- fundamentals of extra low voltage operation
- use of electrical test equipment for cathodic protection on gas pipelines and facilities
- Electrical risks associated activities within the Gas Industry
- safe use of meters and other relevant electrical equipment.

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 4.1.16 Demonstrate operational understanding of Gas Industry facilities and infrastructure

Evidence shall show an operational understanding required at a supervisory level for applicable Gas Industry facilities and infrastructure, including, but not limited to:

- regulation and metering facilities
- compression facilities
- gas processing facilities such as coal seam methane plants
- LPG processing facilities
- scraper stations and pigging facilities
- odourisation facilities
- reference to relevant operating policies and procedures

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Identify threats to the integrity of transmission pipelines Evaluate threats to the integrity of transmission pipelines Initial control of threats to the integrity of transmission pipelines Working knowledge of relevant sections the latest edition of AS2885 Working knowledge of the station function including identification of abnormal conditions of stations and reporting Working knowledge of MSDS Operation of multi meters Working knowledge of pipeline licence conditions
B	All	Interpret technical drawings and symbols Operation of gas detector Emergency response procedures Operate pipe locater Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Practical knowledge of the properties of product being transported Maintain a safe and clean workplace Work safely with

		hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in, Context of and specific resources for assessment, evidence should show demonstrated competency of first response to a facility event.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B Maintain pipeline easements

UEGNSG329A Gas transmission pipeline surveillance

UEGNSG308B Identify, evaluate and control threats to transmission pipelines

UEGNSG309B First on site emergency response on a transmission pipeline

UEGNSG310B Supervise and monitor contract work

UEGNSG311B Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to performing first response to a facility event

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Traffic control

Facility

Event

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG313B Check and report on station conditions

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

Observe station conditions, perform minor maintenance and report on status. Stations could include metering, compressors, valves, regulators, heaters, scraper, telemetry and odourisation facilities. The competency standard is applied against the procedures found under the latest edition of AS 2885.3 Australian and New Zealand Standard.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where gas/petrochemical liquid industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, Gas Industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to check and report on station conditions	1.1	Work schedules, specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.8	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to

ELEMENT	PERFORMANCE CRITERIA	
		carry out work
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
2 Carry out the checking and reporting on station conditions	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Operating conditions of equipment are monitored through gauge levels, temperatures, flow indicators in order to determine performance of equipment and system
	2.7	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures
	2.8	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements

ELEMENT	PERFORMANCE CRITERIA	
	2.9	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.10	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality like outcome is achieved for the client to a community and industry standard
3 Complete the checking and reporting on station conditions	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off accordance with requirements
	3.6	Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for checking and reporting on station conditions.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G313B Station condition report

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas

Industry

- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency

- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and

efficiently

- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and

exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information

to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 3.1.2 independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.4.1 Understand corrosion processes

Evidence shall show an understanding of corrosion as it applies to cathodic protection on a Gas Industry pipeline, indicated by the following:

- understanding corrosion processes.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.15 rive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):

- sedan
- four wheel drive vehicles
- trucks
- buses
- excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	All	Working knowledge of relevant sections of the latest edition of AS2885 Part 3 Working knowledge of security breach procedures Demonstrated knowledge of station function Demonstrated knowledge of identifying abnormal conditions of a station Demonstration of the practical use of communications equipment
B	All	Interpret technical drawings and symbols Operation of gas detector Operate pipe locater Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Practical knowledge of the properties of product being transported Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide

		appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in checking and reporting on station conditions.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment

and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B Maintain pipeline easements

UEGNSG329A Gas transmission pipeline surveillance

UEGNSG308B Identify, evaluate and control threats to transmission pipelines

UEGNSG309B First on site emergency response on a transmission pipeline

UEGNSG310B Supervise and monitor contract work

UEGNSG311B Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to checking and reporting on station conditions .The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawing

Established procedures

PPE and First Aid equipment

Traffic control

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG314B Liaise with third party and the community to maintain pipeline integrity and community safety

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard covers the liaison with third parties and the community for purposes of maintaining the integrity of a transmission pipeline. The competency standard is applied against the procedures found under the latest version of AS 2885.3 Australian and New Zealand Standard. It includes third party liaison, community awareness, communication or communication strategy and negotiating skills.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of

License to practice **3)**

persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Plan to liaise with third party and the community to maintain pipeline integrity and community safety	1.1 Work schedules, specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
		1.2 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
		1.3 Risk control measures are identified, prioritised and evaluated against the work schedule
		1.4 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
		1.5 OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
		1.6 Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
		1.7 Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
		1.8 Clients are provided with possible solutions and options within the scope, acceptable cost and

ELEMENT	PERFORMANCE CRITERIA	
		requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Persons participating in the work are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.11	Status of the system is sought through communication with pipeline control centre in accordance with established procedures
2 Carry out liaison with third party and the community to maintain pipeline integrity and community safety	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.3	First Aid and other related work procedures are performed according to requirements and established procedures
	2.4	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.5	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.6	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.8	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.9	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client to a community and industry standard
3 Complete the liaison with third party and the community to maintain pipeline integrity and community safety	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.4	Relevant work permit(s) are signed off accordance with requirements
	3.5	Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for liaising with third party and the community to maintain pipeline integrity and community safety.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G314 Transmission pipeline integrity and safety B

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities

and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.10 Understanding security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making

- guidelines for making decisions
- decision making aids and support systems
- negotiation with internal and external stakeholders
- the nature of negotiation
- strategy and tactics of bargaining
- pre-negotiation essentials
- communication in negotiation

- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being

assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Identify threats to the integrity of transmission pipelines Evaluate threats that impact level of secondary response Control of the escalation of threats to the public, environment, transmission pipelines and facilities Working knowledge of relevant sections the latest version of AS2885 Working knowledge of

		security breach procedures Demonstration of the practical use of communications equipment
B	All	Interpret technical drawings and symbols Use of and interpret Dial Before You Dig report or its equivalent Work utilising relevant OHS and E legislation, regulations, codes of practice, policies and procedures Practical knowledge of the properties of product being transported Work safely with hazardous materials and equipment Apply safe manual handling techniques Effective communication to the public and community groups Negotiation skills Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in liaising with third parties and the community to maintain pipeline integrity and community safety.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B	Maintain pipeline easements
UEGNSG329 A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on site emergency response on a transmission pipeline
UEGNSG310B	Supervise and monitor contract work
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to liaising with third parties and the community to maintain pipeline integrity and community safety.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Third party liaison

Community awareness

Communication or communication strategy

Negotiating skills

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG315B Aerial transmission pipeline surveillance

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the aerial surveillance of transmission pipelines, easements and/or surrounding environs. The competency standard is applied against the procedures found under latest edition of AS 2885.3 Australian and New Zealand Standard. The competency standard also refers to threat mitigation through identification of system non-conformance. The competency standard outlines the areas to be monitored; inspection of areas; system's pipe work; structures; fittings; equipment; organisational and statutory requirements and recording and reporting.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/petrochemical liquid/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and

License to practice **3)**

training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to conduct aerial surveillance of transmission pipelines, easements and/or surrounding environs	1.1 Routine surveillance of pipeline is conducted and faults reported in a timely manner against work schedule(s) and established procedures and confirmed if necessary by site inspection
	1.2 Relevant requirements and established procedures for the work are communicated to all persons
	1.3 OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for gas pipeline surveillance are obtained and confirmed for the purposes of the work performed and communicated
	1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5 Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6 Relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.7 Resources including persons, equipment, tools and personal protective equipment required for pipeline surveillance are identified, scheduled and obtained and confirmed in working order

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Conduct aerial surveillance of transmission pipelines, easements and/or surrounding environs and identify non-conformance	2.1	Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.2	Dealings with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3	Essential Knowledge and Associated Skills for the pipeline surveillance are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Leakages and damaged pipes, fittings and appurtenances are recorded in accordance with the work schedule and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Unplanned events in pipeline surveillance are undertaken with the scope of established procedures
	2.7	System faults and the operational condition of the pipelines are identified and reported and known solutions are applied using Essential

ELEMENT	PERFORMANCE CRITERIA	
		Knowledge and Associated Skills
	2.8	Works in the vicinity of the pipeline are identified and reported and known solutions are applied using Essential Knowledge and Associated Skills
3 Review, record and report on transmission pipelines, easements and/or surrounding environ work	3.1	Solutions are developed based on consideration of relevant information and options and proposed solutions are communicated and implemented as required against works schedule, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Solution is implemented in accordance with standard operating procedures ensuring that action is correctly documented, the transaction is accurately processed and the customer is advised
	3.4	Work completion records, reports and documentation are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for aerial transmission pipeline surveillance.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G315 Transmission pipeline aerial surveillance B

G 3.3.1 Consulting appropriate persons to coordinate work and persons

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons on Gas Industry pipeline (Transmission) systems, indicated by the following:

- personal requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists

G 3.3.4 Liaise and communicate with relevant authorities

Evidence shall show an understanding of liaising with the relevant authorities in relation to Gas Industry pipelines (Transmission), indicated by the following:

- legislative, OHS and environmental requirements applicable to a specific commissioning/decommissioning of a pipeline
- authorities that need to be contacted when planning the commissioning/decommissioning of pipeline
- requirements and procedures to obtain approvals/permits from relevant authorities
- requirements for advising relevant authorities of intended activities
- accurate and complete records of all communications

with relevant authorities.

G 3.3.7 Prepare reports

Evidence shall show an understanding of the preparing of reports applicable to Gas Industry pipelines (Transmission), indicated by the following:

- procedures and legislative requirements for maintaining appropriate reporting and recording systems
- job records and process information to appropriate/relevant department
- non-conformances and incidents in accordance with procedures and legislative requirements.

G 3.3.10 Notify of completion of work

Evidence shall show an understanding of the notification of completion of work procedures in Gas Industry pipelines (Transmission), indicated by the following:

- documentation to be completed and processed when the work is completed
- authorities/councils that need to be notified in relation to site reinstatement
- recording and reporting system accurately and in accordance with procedures.

G 4.1.1 Operate and supervise in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and

communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion

- venting and purging principles
- Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program

- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.10 Understanding security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 4.1.20 Understand and implement transmission pipeline environmental protection processes

Evidence shall show an understanding on environmental impacts of a gas transmission pipeline, indicated by the following:

- understanding of relevant environmental legislation and environmental regulations

- understanding of the effects a pipeline can have on flora and fauna
- understanding of the effects a pipeline can have on agriculture
- understanding of the effects a pipeline can have on erosion to soil.
- Understanding of the effects a pipeline can have on air quality and waterways
- application of relevant policies and procedures

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, all summative (or final) assessment is to include the application of the competency in the normal work environment or, at a minimum, its application in a realistically simulated work environment. In some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for assessors to consider when choosing an assessment method and developing assessment instruments. Sample instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
  - Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Identify threats to the integrity of transmission pipelines Evaluate threats to the integrity of transmission pipelines Control of the escalation of threats to the public, environment, transmission pipelines and facilities Working knowledge of relevant sections of latest edition of AS2885.3 Pipelines-Gas and Liquid Petroleum Gas Operations

		and Maintenance: Sections 3, 4.3, 5.3.6.1, 5.4.1, 5.4.3, 5.5 section 6 threat mitigation Demonstration of the practical use of communication equipment Identifying faults Recording information
B	All	Interpret technical drawings and symbols Work using relevant OHS and legislation, regulations, codes of practice, policies, procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Practical knowledge of the properties of product being transported Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in aerial transmission pipeline surveillance.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B	Maintain pipeline easements
UEGNSG329 A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on site emergency response on a transmission pipeline
UEGNSG310B	Supervise and monitor contract work
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to aerial transmission pipeline surveillance. The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Areas to be monitored

Inspection of areas

Systems pipe work

Structures

Fittings and appurtenances

Organisational and statutory requirements (3)

Recording and reporting

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

External interference

Aerial

Aerial hazards

Transmission pipeline standards

Maps and drawings

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG316B Site control of excavations in the vicinity of a transmission pipeline

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard covers the control of all excavations in the vicinity of a transmission pipeline to ensure the integrity of the pipeline is not compromised. The competency standard is applied against the procedures found under the latest version of AS 2885.3 Australian and New Zealand Standard.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where gas and petrochemical liquids industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of

License to practice **3)**

persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1 Plan to undertake site control of excavations in the vicinity of a gas transmission pipeline	1.1	Site is checked for specific hazards. Works schedule(s), specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Other utility assets are identified by Dial Before You Dig or other means
	1.4	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.5	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.6	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.7	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.8	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order

ELEMENT		PERFORMANCE CRITERIA
	1.9	Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.10	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.11	Persons participating in the work are fully briefed, inducted and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
2 Carry out site control of excavations in the vicinity of a transmission gas transmission pipeline	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.3	First Aid and other related work procedures are performed according to requirements and established procedures
	2.4	Lifting, climbing, working in confined spaces and aloft, techniques and practices are safely exercised according to requirements
	2.5	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.6	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.7	Operating conditions of equipment are monitored.
	2.8	Excavation is benched or shoring used in

ELEMENT		PERFORMANCE CRITERIA	
			accordance with relevant legislation
		2.9	Other utility assets are located and confirmed
		2.10	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures
		2.11	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
		2.12	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
		2.13	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved to a community and industry standard
3	Complete site control of excavations in the vicinity of a gas transmission pipeline	3.1	Work undertaken is checked against work schedules for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
		3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
		3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
		3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
		3.5	Relevant work permit(s) are signed off accordance with requirements
		3.6	Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed,

ELEMENT	PERFORMANCE CRITERIA
	processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for site control of third party works in the vicinity of a transmission pipeline.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G316B Transmission pipeline proximity excavation

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely

in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks

- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions

- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.2.32 Comply with requirements for excavating and reinstating site

Evidence shall show an understanding of the requirements for preparing, conducting and completing an excavation indicated by the following:

- Identifying plans, codes, standards and drawings relevant to specific worksites
- Reading and interpreting relevant plans, codes, standards and drawings
- Regulatory requirements and procedures for excavating trenches and reinstating sites
- Apply shoring or benching requirements
- Notification of appropriate authorities and requirements for temporary or permanent restorations

G 2.2.33 Locate utilities and services

Evidence shall show an understanding and an ability to locate services, indicated by the following:

- Identification of relevant authorities or enterprises to contact regarding the location of other utilities services (gas, water, electricity, telecommunication, sewerage and stormwater)
- Read and interpret plans and drawings to identify the location of utilities and services
- Identification of utilities and services conduits and cables
- Correct use of electronic and manual service locators
- Apply hand excavation as required for the purposes of locating utilities and services

G 2.2.34 The selection, the use and application of materials

Evidence shall show an understanding and ability to use correct tools, materials and equipment to undertake work on a gas industry workplace, indicated by the following:

- Appropriate tools, materials and equipment are identified for preparing the site, excavating trenches and reinstating the site
- Safety requirements for using tools, materials and equipment
- Correct use of appropriate PPE
- Procedures for using, cleaning and storing tools, materials and equipment

- Procedures for checking tools, materials and equipment
- Reporting faulty tools, materials and equipment

G 2.2.37 Excavate trenches

Evidence shall show an understanding of the excavation of a Gas Industry workplace trench, indicated by the following:

- An understanding of spotter/competent observer requirements
- Identify environmental and safety hazards, assess risks and implement control measures
- Safety requirements and procedures for excavating and shoring trenches in a variety of conditions surface types, soil types, weather, traffic, time of day, location
- Regulations and requirements for working in confined spaces and shoring
- Purpose and techniques of excavation in excavating trenches, shoring, battering and exposing other services
- Understand depth and grade of trench requirements against specifications
- Use a variety of excavation and shoring techniques to suit varying conditions (surface types, soil types, weather, traffic, time of day, location)
- Demonstrate understanding of when to manually excavate instead of mechanical excavation

G 2.2.48 Prepare an excavation site

Evidence shall show an understanding and ability to prepare the site for excavation on a gas industry workplace, indicated by the following:

- Use of Dial Before you dig services
- Preparation of traffic management plans
- Identify Environmental and Safety Hazards, assess risks and implement control measures
- Communicating with third parties, colleagues and customers regarding the excavation site
- Reading and interpreting job specifications and standard operating procedures
- Grades and depth required for excavation of trenches for gas pipelines
- Techniques for marking out trench location

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.4.5 Interpreting topographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders

including:

- workplace colleagues
- workplace managers
- relevant customers and suppliers
- regulatory bodies
- property/land owners (including traditional land owners) and tenants
- emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.15 Drive Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	is to be demonstrated	
A	All	Identify threats to the integrity of transmission pipelines Evaluate threats to the integrity of transmission pipelines Initiate control of threats to the integrity of transmission pipelines Working knowledge of coatings for corrosion protection Working knowledge of relevant sections of the latest version of AS2885 Working knowledge of requirements and techniques for safe excavations Working knowledge of construction machinery Working knowledge of external interference physical and procedural protection measures Perform effective on site induction Perform effective risk assessment and hazard analysis
B	All	Interpret technical drawings and symbols Operation of gas detector Emergency response procedures Operate pipe locater Use of and interpret Dial Before You Dig report or its equivalent

		Locate other assets in a safe manner Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Contractor management Traffic management Use of safety signage/barricades and materials Issue, monitor and control work permits Apply safe manual handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in site control of excavations in the vicinity of a transmission pipeline.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B	Maintain pipeline easements
UEGNSG329 A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on site emergency response on a transmission pipeline
UEGNSG310B	Supervise and monitor contract work
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation site control of excavation in the vicinity of a transmission pipeline.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures

PPE and First Aid equipment

Traffic control

Facility

Event

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG317B Monitor and report on cathodic protection systems

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard does not include specialist cathodic protection activities, but includes the performance of testing, basic fault recognition, and is limited to minor maintenance, reporting of findings including faults on cathodic protection systems. The work may be performed autonomously in remote locations for long periods of time. The competency standard is applied against the requirements found under the latest version of AS 2885 and AS2832 Australian and New Zealand Standard. Includes Tools and equipment, Maps and Drawings, Established Procedures, PPE and First Aid Equipment, Traffic Control.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, Gas Industry safety and compliance, industrial relations, environmental

License to practice **3)**

protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to monitor and report on the cathodic protection system	1.1	Work schedules, specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.8	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to

ELEMENT	PERFORMANCE CRITERIA	
		carry out work
	1.9	Persons participating in the work are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
2 Monitor and report on the cathodic protection system	2.1	OHS and Environmental policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures are performed according to requirements and established procedures
	2.3	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required according to requirements and established procedures
	2.7	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.8	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.9	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client to a

ELEMENT	PERFORMANCE CRITERIA	
		community and industry standard
3 Review, record and report on monitoring and reporting on the cathodic protection system	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and materials are where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off accordance with requirements
	3.6	Work completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for monitoring and reporting on cathodic protection systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G317B Cathodic protection systems

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.4.1 Understanding corrosion processes

Evidence shall show an understanding of corrosion as it applies to cathodic protection on a Gas Industry pipeline, indicated by the following:

- understanding corrosion processes.

G 3.4.5 Interpreting topographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers

- relevant customers and suppliers
- regulatory bodies
- property/land owners (including traditional land owners) and tenants
- emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.6 Understand OHS and First Aid requirements for Gas Industry supervisors

Evidence shall show an understanding of OHS and First Aid

requirements for gas industry supervisors and autonomous working staff, indicated by the following:

- understanding of applicable enterprise Occupational Health and Safety systems and procedures
- understanding of requirements and reasons for providing First Aid equipment and training for employees in the gas industry

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.9 Supervise transmission pipeline operations

Evidence shall show an understanding, applicable at a supervisory level, of gas transmission pipelines, indicated by the following:

- pipeline threats, identification and control
- pinpointing pipeline locations
- excavation machinery and their effects used near pipelines
- pipeline specifications
- coatings for corrosion protection
- HB105 Guide to Pipeline Risk Assessment in accordance with AS2885 Part 1 and Part 3
- applicable pipeline legislation, regulatory and advisory standards and codes of practice.

G 4.1.13 Understand electrical fundamentals for the Gas Industry

Evidence shall show an understanding of electrical

fundamentals required for Gas Industry workers and supervisors, indicated by the following:

- fundamentals of extra low voltage operation
- use of electrical test equipment for cathodic protection on gas pipelines and facilities
- Electrical risks associated activities within the Gas Industry
- safe use of meters and other relevant electrical equipment.

G 4.1.14 Understand and comply with environmental and cultural issues requirements

Evidence shall show an understanding of environmental and cultural issues required of Gas Industry supervisors and autonomous workers, indicated by the following:

- understanding relevant environmental legislation, regulations, advisory standards, codes of practice and their impact on gas industry pipelines and facilities
- demonstrate appropriate actions and behaviours when dealing with environmental and cultural issues
- understanding of the significance of cultural awareness and native title legislation, regulations, advisory standards, codes of practice and cultural customs and practices and their impact on Gas Industry pipelines and facilities.

G 4.1.15 Driving Gas Industry vehicles

Evidence shall show an understanding of requirements and capability of driving applicable Gas Industry vehicles including but not limited to:

- Driving vehicles appropriate to the organisation. Vehicles may include any of the following (dependent on the needs of the organisation):
  - sedan
  - four wheel drive vehicles
  - trucks
  - buses
  - excavation and construction equipment such as backhoes and excavators.
  -

Note: All vehicles included in this clause have licence or ticket requirements. The licence or ticket will need to be issued to the learner for completion of relevant sections of the EKAS Clause.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the

normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Working knowledge of relevant sections AS2885 and AS2832 Demonstrate the practical use of communications equipment Demonstrate use and maintenance of CP equipment Demonstrate use and maintenance of measuring equipment Complete written and verbal reports

		Demonstrated knowledge of cathodic protection principles and equipment Identify and recognise cathodic protection faults Diagnose and perform minor maintenance of faults on cathodic protection equipment
B	All	Interpret technical drawings and symbols Operate gas detector Operate pipe locater Work using relevant OHS and environmental, cultural and heritage regulations, codes of practice, policies and procedures Practical knowledge of the properties of product being transported Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 1
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in monitoring and reporting on cathodic protection systems.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG302B	Maintain pipeline easements
UEGNSG329 A	Gas transmission pipeline surveillance
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines
UEGNSG309B	First on-site emergency response on a transmission pipeline
UEGNSG310B	Supervise and monitor contract work
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation monitoring and reporting on cathodic protection systems.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Tools and equipment (4)

Maps and drawings

Established procedures and requirements

PPE and First Aid equipment

Traffic control

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG318B Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the monitoring and operation of complex flow control, measuring and regulating devices to monitor and control gas supply in gas transmission systems. The competency standard refers to Inspecting, Testing and Controlling; Regulation of flow and pressure; Measuring; Recording and reporting; Regulation of flow and regulation devices; Regulation of the system; Equipment; Organisational and statutory requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not

License to practice **3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare for the operation of complex flow control devices and equipment	1.1	Work requirements for monitoring and operating complex flow control, measuring and regulating devices are interpreted from plans, specifications and instructions
	1.2	Relevant requirements and established procedures for the work are communicated to all persons
	1.3	OHS, environmental and sustainable energy policies and procedures related to the monitoring and operating of complex flow controls are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for investigating billing exceptions and conditions are identified, scheduled and obtained and confirmed in

ELEMENT	PERFORMANCE CRITERIA	
		working order
	1.8	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Repair and replace complex flow control devices and equipment and monitor system performance	2.1	Information on device and equipment performance is collected and reported in accordance with organisational requirements
	2.2	Dealing with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3	Apply Essential Knowledge and Associated Skills for monitoring and operating complex flow control devices to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Routine inspections of system are scheduled and monitored in accordance with the work schedule and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Data on system performance and usage is collected, analysed and reported and unplanned events in the monitoring and operation of complex flow control are undertaken with the scope of established procedures
	2.7	Samples are taken in accordance with

ELEMENT	PERFORMANCE CRITERIA	
		established procedures and known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Controlling and adjusting flows and compilation of records and reports	3.1	Flow and overflow regulating systems are inspected and adjustments made to meet demand and customer requirements
	3.2	Accidents and injuries are reported in accordance with established procedures where applicable
	3.3	Flows and diversions are determined to facilitate repair or emergency activities in accordance with organisational requirements
	3.4	Process faults and operational conditions of the system are identified, addressed and reported in accordance with organisational requirements
	3.5	Work completion records, reports and documentation are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices monitoring and operating complex flow control, measuring and regulating devices on gas transmission systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G318B Transmission pipeline flow control, pressure, measuring and regulating devices

G 3.2.1 Consulting appropriate persons to coordinate work and persons on a Gas Industry workplace

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons for Gas Industry pipelines (Distribution), indicated by the following:

- personnel requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists.

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 3.2.17 Maintain records

Evidence shall show an ability to maintain of records for the repair and modification of Gas Industry pipelines (Distribution) systems, indicated by the following:

- Interpret and apply enterprise policies and procedures
- Collate all relevant data
- Identify and complete the relevant records, drawings, documents and forms
- Store records in a secure manner consistent with enterprise policies and procedures

G 3.2.19 Liaise and communicate with relevant parties

Evidence shall show an understanding of liaising and communicating with relevant parties involved in repair or modification of Gas Industry pipelines (Distribution), specifically:

- Interpret and apply enterprise policies and procedures
- Identify key stakeholders
- Identify specialists that can assist in repair/modification work
- Identify responsibilities and reporting requirements of third parties
- Establish communication lines with parties that require notification of repairs/modifications

G 3.8.1 Control systems operations flow

Evidence shall show an understanding of the workings of gas flow and the devices used to control flow control, indicated by the following:

- understanding gas flow control devices.

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	At least 3	Interpret technical drawings and symbols Selection of appropriate tools and equipment System knowledge of Transmission pipelines and stations Relevant knowledge of AS3885 Part 3
B	All	Auxiliary control systems knowledge and understanding Wide open monitor operation Monitor Active Regulation Two stage pressure reduction with monitor override
C	All	RTU control of regulators
D	At least 2	Pressure Controllers, operation, maintenance and understanding Commissioning/Setting Troubleshooting Pressure Boosters minor repairs Knowledge of types/models
E	At least 2	Regulator knowledge and understanding Sleeve types Control valves Pressure reliefsDiaphragm types Hydraulic Plug types

F	All	Valve maintenance and operation. Automatic Line Break Valves operation and maintenance Configuration of Ball, Plug, Gate, Instrument and Butterfly valves
G	At least 3	Working knowledge of: Diaphragm meters Rotary meters Turbine meters Ultrasonic meters Orifice plates Coriolis meters Oil changing
H	At least 3	Operational checks Single run units Dual run units City gates or Trunk Receiving Stations (TRS) District regulators Pressure Reliefs
I	At least 3	Maintenance Activities Single run units Dual run units City gates District Regulators Pressure Reliefs
J	At least 3	Pressure alterations Industrial units City gates Regulator Stations

		Distribution mains
K	At least 3	Flaring and Purging Industrial units City gates Regulator Stations Distribution mains
L	At least 3	Overpressure Protection Systems function and operation. OPSO Internal pressure relief systems Pressure relief valves Slam Shut systems Valve Actuator and control systems
M	All	Paperwork: Risk assessments Time sheets Completing work records Notifications and work permits Equipment check lists Meter bypass forms Service orders Pressure recording charts
N	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in monitoring and operating flow control, pressure, measuring and regulating devices for gas transmission.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall/may be demonstrated in relation to the monitoring and operating of complex flow control, measuring and regulating devices for gas pressure and flow control.The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Inspecting and controlling

Regulation of flow and pressure

Measuring

Recording and reporting

Regulation of flow and regulation devices

Regulation of the system

Equipment

Organisational and statutory requirements

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG319B Custody transfer metering and gas quality analysis

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the calibration of volumetric measuring devices and gas analysers used in the measurement of gas quality.

The competency standard refers to the inspection, validation, calibration and recommissioning of custody transfer devices and gas quality measuring equipment in accordance with reference standards to meet contractual, organisational or statutory requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not

License to practice **3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare for the calibration of CTM or gas quality measuring equipment.	1.1	Work requirements for calibration of measuring devices are interpreted from plans, specifications and instructions
	1.2	Relevant requirements and established procedures for the work are communicated to appropriate persons
	1.3	OHS, environmental and sustainable energy policies and procedures related to the work to be performed are obtained and confirmed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including equipment, tools, calibration gases and personal protective equipment required to conduct the work are suitable, fit for purpose are obtained and confirmed in working order and any test

ELEMENT	PERFORMANCE CRITERIA	
		measurement equipment is NATA calibrated and within calibration tolerances
	1.8	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Inspect/Validate/Calibrate CTM or Gas Quality measuring equipment.	2.1	Information on device and equipment performance is collected and reported in accordance with organisational requirements
	2.2	Dealing with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3	Essential Knowledge and Associated Skills for the Inspection, Validation, Calibration of CTM's or Gas Quality measuring equipment is applied to ensure completion in an agreed timeframes and to quality standards with a minimum of waste according to requirements
	2.4	Routine inspections of system are scheduled and monitored in accordance with the work schedule and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Equipment is calibrated against appropriate standards using correct calibration devices, equipment, techniques are undertaken within the scope of established procedures
	2.7	Deviations of results are resolved in accordance with established procedures and known solutions

ELEMENT	PERFORMANCE CRITERIA	
		to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Return to operational service of CTM or Gas Quality measuring equipment.	3.1	Equipment is returned to operational service in accordance with established procedures
	3.2	Anti tamper seals are replaced and tagging removed in accordance with established procedures where applicable
	3.3	Work completion records, reports and documentation are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices in custody transfer metering and gas quality analysis.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G319 B **Custody transfer metering**

G 3.1.2 Work independently in a Gas Industry environment

Evidence shall show an understanding of working independently in a Gas Industry environment, indicated by the following:

- understanding of how to work autonomously or under limited/remote supervision.

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 3.2.17 Maintain records

Evidence shall show an ability to maintain of records for the repair and modification of Gas Industry pipelines (Distribution) systems, indicated by the following:

- Interpret and apply enterprise policies and procedures
- Collate all relevant data
- Identify and complete the relevant records, drawings, documents and forms
- Store records in a secure manner consistent with enterprise policies and procedures

G 3.2.19 Liaise and communicate with relevant parties

Evidence shall show an understanding of liaising and communicating with relevant parties involved in repair or modification of Gas Industry pipelines (Distribution), specifically:

- Interpret and apply enterprise policies and procedures
- Identify key stakeholders
- Identify specialists that can assist in repair/modification work
- Identify responsibilities and reporting requirements of third parties
- Establish communication lines with parties that require notification of repairs/modifications

G 3.8.1 Systems operations flow control

Evidence shall show an understanding of the workings of gas flow and the devices used to control flow control, indicated by the following:

- understanding gas flow control devices.

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may

be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti-discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 3	Interpret technical drawings and symbols Selection of appropriate tools and equipment System knowledge of TP, HP, MP, LP Relevant knowledge of AS3885 Part 3
B	All	Auxiliary control systems knowledge and understanding Wide open monitor operation

		Two stage pressure reduction with monitor override
C	All	RTU control of regulators
D	At least 2	Pressure Controllers, operation, maintenance and understanding Commissioning/Setting Troubleshooting Pressure Boosters minor repairs Knowledge of types/models
E	At least 2	Basic regulator knowledge and understanding Sleeve types Control valves Diaphragm types Hydraulic Plug types
F	All	Valve maintenance and operation Working knowledge of Ball, Plug, Gate Instrument and Butterfly valves
G	At least 3	Working knowledge of: Diaphragm meters Rotary meters Turbine meters Ultrasonic Orifice plates Coriolis Oil changing
H	At least 3	Operational checks Single run units

		Dual run units City gates District regulators Field regulators
I	At least 3	Full Maintenance Activities Single run units Dual run units City gates District Regulators Field Regulators
J	At least 3	Pressure alterations Industrial units City gates Regulator Stations Distribution mains
K	At least 3	Flaring and Purging Industrial units City gates Regulator Stations Distribution mains
L	At least 3	Overpressure Protection Systems function and operation. OPSO Internal pressure relief systems Pressure relief valves Slam Shut systems Valve Actuator and control systems
M	All	Paperwork: Risk assessments

		Time sheets Completing work sheets Notifications and work permits Equipment check lists Meter Bypass forms Service orders Pressure recording charts
N	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of custody transfer metering and gas quality analysis.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the inspection, validation, calibration, and recommissioning of custody transfer devices and gas quality measuring equipment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Calibration skills used in the setting, adjustment, calibration validation or verification of instrumentation sensors

Measurement principles

Gas chromatography

Recording and reporting

Equipment

Organisational and statutory requirements

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG320A Establish right of way access for transmission pipeline construction

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

Right of Way access preparation refers to the provision of access of operators to survey, clear, ditch, lower in, backfill and reinstate the pipeline easement. This competency refers to: Access preparation; Permits; Approval for construction; Stakeholder approvals; Verification and identification of 3rd party assets; Environmental and cultural heritage controls.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT		PERFORMANCE CRITERIA
1	Prepare for the construction of right of way easement.	1.1 Work instructions are received and confirmed.
		1.2 Topographical and geographical maps are confirmed with authorised person to follow the selected pipeline route and the work schedule is checked for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures.
		1.3 OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed.
		1.4 Discussion occurs with all persons to establish and confirm work schedule.
		1.5 Suggestions to assist with construction of Right Of Way for easements are made to others involved in the work.
		1.6 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored, according to established procedures.
		1.7 Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons.
		1.8 Resources including equipment, tools and personal protective equipment required for the

ELEMENT	PERFORMANCE CRITERIA	
		job are obtained and in working order according to established procedures.
	1.9	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident.
	1.10	Third party issues are referred to appropriate persons in accordance with industry and community standards.
2 Carry out access provisions for the construction of right of way easement	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards.
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents.
	2.3	Work area is cordoned off and made safe for the construction of pipeline easements in accordance with given instructions and established procedures.
	2.4	Access for the construction of a pipeline easement is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures.
	2.5	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures.
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures.
	2.7	Remedial action associated with the access for

ELEMENT	PERFORMANCE CRITERIA	
		pipeline construction is dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures.
3 Complete procedures for access provisions for construction of right of way easement	3.1	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.2	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.3	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.4	Appropriate persons are notified of work completion according to established procedures
	3.5	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for using of equipment and tools to perform work in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G320A Right of way access for transmission pipeline construction

G 2.3.16 Transmission pipeline construction OHS, environmental and cultural legislative and regulatory requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces

For Environmental:

- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits

For Cultural and Heritage Awareness:

- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.17 Knowledge of right of way set out and ditch line

Evidence shall show an understanding of translation of survey techniques into the right of way environment such as:

- Survey markers and off set markers, their meaning and relevant work applications.

G 2.3.18 Effective communication with third party asset owners in exposing, surveying and reinstating their assets safely

Evidence shall show an understanding of how to effectively communicate with third party asset owners about:

- exposing, surveying and re-instating their assets safely and effectively

G 2.3.19 Knowledge of pipeline protective systems including bedding and padding materials

Evidence shall show an understanding of the methods of protecting the pipeline from third party interaction:

- use of marker tape, bedding materials, marker post signage.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best

utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	OHS, environmental and cultural legislative and regulatory requirements. Interpret survey set out. Follow third party procedures for verification and identification of assets to ensure their preservation. Abiding by restrictions of the Right of Way and access. Erosion control processes. Choose and operate appropriate plant for

		ground conditions (separation of top soil, sub soils etc).
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG125A	Carry out transmission pipeline construction work activities
UEGNSG127A	Comply with transmission pipeline construction environmental and cultural policies and procedures
UEGNSG128A	Establish a transmission pipeline construction work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to maintaining pipeline easements

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Access preparation

Permit to Work

Permit to Access Land

Approval for construction

Stake holder approvals

Verification and identification of third party assets

Environmental and cultural heritage controls

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.

UEGNSG321A Undertake hydrotesting for transmission pipeline construction

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

To undertake hydrotesting on gas transmission pipelines construction worksites. Including testing work; Legislative and regulatory requirements for testing; Testing equipment, tools and materials. This competency refers to: Crane Truck; Side Boom; Rough Terrain Crane; Fill and Squeeze Pumps; Break Tanks; Victullic Piping; Dead Weight Tester; Temperature Probes; Test Shack; Gauges; Compressor; Data; Collectors; Test Header; Cleaning Headers; Gauging Plate; Drying Plant; After Cooler; Pig; Chart Recorder; Generator; Lighting Towers.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for hydrotesting for transmission pipeline construction	1.1 Work instructions are received and confirmed.
	1.2 OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed.
	1.3 Easement is inspected and testing procedures determined in accordance with standard operating procedures relevant requirements.
	1.4 Discussion occurs with all persons to establish and confirm work schedule.
	1.5 Suggestions to assist with testing for construction of pipeline are made to others involved in the work.
	1.6 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures.

ELEMENT	PERFORMANCE CRITERIA	
	1.7	Scope of responsibility under the relevant work permit is received and confirmed according to requirements and established procedures with relevant persons.
	1.8	Resources including equipment requirements, tools and personal protective equipment required for the job are obtained and in working order according to established procedures.
	1.9	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident.
	1.10	Third party issues are referred to appropriate persons in accordance with industry and community standards
2 Carry out relevant testing for transmission pipeline construction	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards.
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents.
	2.3	Work area is isolated and made safe and civil activities and testing of pipeline for construction is carried out in accordance with given instructions and established procedures.
	2.4	Easement is confirmed for testing of pipeline construction to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.5	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions

ELEMENT	PERFORMANCE CRITERIA	
		according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures.
	2.7	Remedial action associated with testing for construction of transmission pipeline is dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met.
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures.
3 Complete procedures for testing of transmission pipeline construction	3.1	The work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures.
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures.
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures.
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures.
	3.5	Appropriate persons are notified of work completion according to established procedures.
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for using of equipment and tools to perform work in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G321 Hydrotesting for transmission pipeline construction A

G 2.3.16 Transmission pipeline construction OHS, environmental and cultural legislative and regulatory requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces

For Environmental:

- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits

For Cultural and Heritage Awareness:

- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.20 Operation of portable high pressure equipment

Evidence shall show an understanding of safe operation of the following:

- high pressure equipment hoses and whip checks
- Exclusion zone awareness
- Specific signage requirements for using high pressure equipment

G 2.3.21 Knowledge of ASNZ 2885 for transmission pipeline construction crews

Evidence shall show an understanding of the relevant sections of:

- ASNZ 2885 dependent on the endorsement area. eg Hydro test only needs 2885.5.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the

competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Operate in a safe manner Practical working knowledge of ASNZ2885.5 Understand and respond to instructions relayed by Hydro Test Engineers (NATA Accredited Auditor)
B	All	Competent Operation of Fill and Squeeze Pumps Competent Operation of Pressure Pumps Competent Operation of Break Tanks

		Competent Operation of Victullic Piping Competent Operation of Dead Weight Tester Competent Operation of Temperature Probes Competent Operation of Test Shack Competent Operation of Gauges Competent Operation of Compressors Competent Operation of Data Collectors Competent Operation of Test Headers Competent Operation of Cleaning Headers Competent Operation of Gauging Plate Competent Operation of Drying Plant Competent Operation of After Cooler Competent Operation of Pig Competent Operation of Chart Recorder Competent Operation of Generator Competent Operation of Lighting Towers
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG125A	Carry out transmission pipeline construction work activities
UEGNSG127A	Comply with transmission pipeline construction environmental and cultural policies and procedures
UEGNSG128A	Establish a transmission pipeline construction work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to the maintaining of pipeline easements.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Crane Truck

Side Boom

Rough Terrain Crane

Fill and Squeeze Pumps

Break Tanks

Victullic Piping

Dead Weight Tester

Temperature Probes

Test Shack

Gauges

Compressor

Data Collectors

Test Header

Cleaning Headers

Gauging Plate

Drying Plant

After Cooler

RANGE STATEMENT

Pig

Chart Recorder

Generator

Lighting Towers

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.

UEGNSG322A Undertake rigging operations for transmission pipeline construction

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

Undertaking rigging on a transmission pipeline construction worksite. This includes: Rigging Work; Legislative and regulatory requirements for rigging; Rigging equipment, tools and materials.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training.

License to practice **3)**

Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

CPCCLRG3001 Licence to perform rigging basic level A

CPCCLDG3001 Licence to perform dogging A

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for rigging operations in the construction of transmission pipelines	1.1	Work instructions are received and confirmed
	1.2	Work schedule is checked for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Discussion occurs with all persons to establish and confirm work schedule
	1.5	Suggestions to assist with constructing pipelines are made to others involved in the work
	1.6	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored according to established procedures
	1.7	Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons
	1.8	Resources including equipment such as tools and personal protective equipment required for the

ELEMENT	PERFORMANCE CRITERIA	
		job are obtained and in working order according to established procedures
	1.9	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
	1.10	Client issues are referred to appropriate persons in accordance with industry and community standards
2 Undertake rigging operations for transmission pipeline construction.	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Work area is isolated and made safe and rigging operations are carried out in accordance with given instructions and established procedures
	2.4	Rigging procedures are maintained and confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.5	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Remedial action associated with rigging operations are dealt with using acquired known solutions and skills related to routine procedures

ELEMENT	PERFORMANCE CRITERIA	
		to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions nd established procedures
3 Completion of rigging operations for transmission pipeline construction.	3.1	Pipeline is monitored to ensure the work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for using of equipment and tools to perform work in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G322 A Rigging operations for transmission pipeline construction

G 2.3.16 Transmission pipeline construction OHS, environmental and cultural legislative and regulatory requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces

For Environmental:

- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits

For Cultural and Heritage Awareness:

- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.23 Undertaking rigging for transmission pipeline construction

Evidence shall show an understanding of:

- the role of the rigger;
- site plans and drawing to ascertain job requirements;
- how to calculate safe loads, load dimensions and centre of gravity of the load;
- how to determine hazard prevention and control procedures utilising the relevant manufacturer specifications, ASNZ Standards and codes of practice;
- tools, equipment and materials used to undertake rigging processes.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord

with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Rigging ticket issued by State OHS regulator Following the appropriate Standard Operating Procedures for rigging Undertake rigging work in a safe manner
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG125A	Carry out transmission pipeline construction work activities
UEGNSG127A	Comply with transmission pipeline construction environmental and cultural policies and procedures
UEGNSG128A	Establish a transmission pipeline construction work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to the maintaining of pipeline easements.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Rigging Work

Legislative and regulatory requirements for rigging

Rigging equipment, tools and materials

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.

UEGNSG323A Operate transmission pipeline construction plant and equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard unit covers the operation of specific plant and equipment dedicated to the construction of transmission pipelines. This competency refers to: Excavator and vacuum lift; Bending machine and mandrels; Internal line up clamp; Tack Rig; Side Boom; Roller Cradles; Rock Saw Bucket; Wheel trencher; Sand Blasting Unit; Thermal Coil; Over ditch wrapping machine; Padding machines; Mitsu Bucket. The competency standard unit has nine (9) specific outcomes as described in the range statement.

Note:
The outcome of this unit may be used for the purpose of licensing and or registration against one or more of the following plant and equipment: Dozer; Excavator; Grader; Backhoe; Front End Loader; Skid Steer; Heavy Rigid Truck; Rough Terrain Crane. Where a candidate has an existing nationally endorsed competency or state/territory issued license in any of the plant and equipment found in this unit, competency will need to be demonstrated in the relevant endorsement.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology

industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Note:
The outcome of this unit may be used for the purpose of licensing and or registration against one or more of the following plant and equipment: Dozer; Excavator; Grader; Backhoe; Front End Loader; Skid Steer; Heavy Rigid Truck; Rough Terrain Crane. Where a candidate has an existing nationally endorsed competency or state/territory issued license in any of the plant and equipment found in this unit, competency will need to be demonstrated in the relevant endorsement.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEGNSG125A	Carry out transmission pipeline construction work activities
UEGNSG128A	Establish a transmission pipeline

Prerequisite Unit(s) **4)**

	construction work site
UEGNSG104A	Comply with environmental policies and procedures
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare plant and equipment for transmission pipeline construction	1.1	Work instructions are received and confirmed
	1.2	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.3	Easement is inspected and assessed using appropriate mediums and civil activities to determine relevant requirements in accordance with standard operating procedures
	1.4	Discussion occurs with all persons to establish and confirm work schedule
	1.5	Suggestions to assist with constructing pipeline easements are made to others involved in the work
	1.6	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored according to established procedures
	1.7	Scope of responsibility under the relevant work permit is received and confirmed according to requirements and established procedures with relevant persons
	1.8	Resources including equipment such as tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.9	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
	1.10	Third party issues are referred to appropriate

ELEMENT	PERFORMANCE CRITERIA	
		persons in accordance with industry and community standards
2 Maintain relevant plant and equipment for transmission pipeline construction	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Work area is isolated and made safe and civil activities and construction of pipeline easements are carried out in accordance with given instructions and established procedures
	2.4	Easement is constructed and confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.5	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Remedial action associated with constructing pipeline easements is dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures

ELEMENT	PERFORMANCE CRITERIA
3 Complete work closure, documentation and	3.1 Pipeline easement work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2 Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3 Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5 Appropriate persons are notified of work completion according to established procedures
	3.6 Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G323 Plant and equipment for transmission pipeline construction A

G 2.3.16 Transmission pipeline construction OHS, environmental and

cultural legislative and regulatory requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces

For Environmental:

- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits

For Cultural and Heritage Awareness:

- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.22 Effective communication on a gas transmission pipeline construction site (between operators and ground crews)

Evidence shall show an Knowledge of on-site pipeline construction communication strategies including:

- hand signals
- satellite phones
- radios

G 2.3.24 Operation of transmission pipeline construction plant and equipment

Evidence shall show an understanding the general operating parameters of the following gas industry transmission pipeline plant and equipment:

- Compressors
- Grader
- Dozer
- Excavator
- Vacuum lift
- Bending machine
- Bending machine & mandrel
- Internal line up clamp
- Tack Rig
- Side Boom
- Roller Cradles
- Trenching Equipment
- Bucket Wheel trencher
- Grit Blasting Unit
- Thermal Coil
- Padding machines
- Mitsu Bucket
- Crane (Rough Terrain)
- Crane Truck
- Flood pump
- Squeeze pump
- Drying Plant

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment

intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below: Group A, and 1 of the following Groups: B, C, D, E, F, G, H, I, J depending on the endorsement.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Working knowledge of OHS, environmental and cultural legislative and regulatory requirements Effective communication between operators and ground crew Deal at least once with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic

		assessment with the above listed items.
B	For Clear & Grade 1 of the following	Operate Dozer Operate Excavator Operate Grader Operate Backhoe Operate Front End Loader
C	String & Bend 1 of the following	Operate Excavator with vacuum lift Operate Bending Machine with Mandrel Operate Side Boom
D	Ditching Operator 1 of the following	Operate Excavator Operate a Rock Saw Operate a Bucket Wheel Trencher
E	Welding/Side Boom 1 of the following	Operate a Side Boom Operate an Internal Line Up Clamp Tack Rig: Operate a Dozer or Skid Steer
F	Joint Coating 1 of the following	Sand Blasting Rig: Operate a Skid Steer Operate an Over ditch Wrapping Machine Operate a Thermal Coil
G	Lower and Lay 1 of the following	Operate Side Booms with Roller Cradles Operate Excavator
H	Backfill 1 of the following	Operate Padding Machines Operate Excavator Operate Grader Operate Dozer

		Operate Front End Loader
I	Hydro Testing Operator 1 of the following	Operate Crane Truck: Heavy Rigid Truck Operate Side Boom Operate Rough Terrain Crane
J	Mechanical (minor maintenance) 4 of the following	Carry out mechanical repairs to: Excavator and vacuum lift Bending machine and mandrels Internal line up clamp Tack Rig Side Boom Roller Cradles Rock Saw Bucket Wheel trencher Thermal Coil Over ditch wrapping machine Padding machines Mitsu Bucket

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

Specific unit endorsement outcomes

This competency standard unit is presented as a composite unit that has nine (9) specific outcomes. There are nine (9) distinct endorsable outcomes in which competence can be achieved and which is to be reported. This is done because of the high degree of commonality in knowledge, process or function. Reporting the unit with the inclusion of an endorsement allows for the formal identification of the necessary applied skills related to workplace outcomes and at the same time reflects the work classification(s) generally understood by industry. The specific unit outcomes are:

1. Backfill
2. Clear and Grade
3. Ditching
4. Hydro Testing
5. Joint Coating
6. Lower and Lay
7. Mechanical (minor maintenance)
8. String and bend
9. Welding

Note:

The outcome of this unit may be used for the purpose of licensing and or registration against one or more of the following plant and equipment: Dozer; Excavator; Grader; Backhoe; Front End Loader; Skid Steer; Heavy Rigid Truck; Rough Terrain Crane. Where a candidate has an existing nationally endorsed competency or state/territory issued license in any of the plant and equipment found in this unit, competency will need to be demonstrated in the relevant endorsement.

This Unit shall be demonstrated in relation an area of endorsement designated against

RANGE STATEMENT

certain items of plant and equipment. The areas of endorsement and related plant and equipment are as follows:

Backfill	At least 1 of the listed items of plant and equipment	Padding Machine Excavator Grader Dozer Front End Loader
Clear and Grade	At least 1 of the listed items of plant and equipment	Dozer Excavator Grader Backhoe Front End Loader
Ditching	At least 1 of the listed items of plant and equipment	Excavator Rock Saw Bucket Wheel Trencher
Hydro Testing	At least 1 of the listed items of plant and equipment	Crane Truck Side Boom Rough Terrain Crane
Joint Coating	At least 1 of the listed items of plant and equipment	Sand Blasting Rig (Skid Steer) Over Ditch Wrapping Machine Thermal Coil
Lower and Lay	At least 1 of the listed items of plant and equipment	Side Boom with Roller Cradles Excavator
Mechanical (minor maintenance)	At least 4 of the listed items of plant and equipment	Excavator and Vacuum Lift Bending Machine and Mandrels Internal Line up Clamp Tack Rig Side Boom Roller Cradles Rock Saw Bucket Wheel Trencher Thermal Coil Over Ditch Wrapping Machine Padding Machines

		Mitsu Bucket
String and bend	At least 1 of the listed items of plant and equipment	Excavator Bending Machine with Mandrels Side Boom
Welding	At least 1 of the listed items of plant and equipment	Side Boom Internal Line up Clamp Tack Rig

Endorsement

Endorsement in the unit shall be separate for each item of plant and equipment listed in the Range Statement of the unit above, for which competency is attributed. More than one endorsement may be demonstrated.

In addition to the above range of items, the following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Effective communication on a transmission pipeline construction site between operators and ground crew (eg hand signals etc)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.

UEGNSG324A Follow company procedures to deal with incidents related to the abuse of drugs and alcohol

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard unit covers the following of company procedures to deal with incidents related to the abuse of drugs and alcohol on a worksite. This competency refers to: company drug and alcohol policies and procedures; OHS procedures and awareness for drug and alcohol abuse.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for the monitoring and control of drug and alcohol related incidences	1.1	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.2	Risk control measures for identified hazards are prioritised, implemented and evaluated
	1.3	Relevant stakeholders are provided with possible solutions and options within the scope of established procedures
	1.4	Scope of responsibility in relation to monitoring and controlling drug and alcohol abuse is received and confirmed according to requirements and established procedures with the relevant persons
	1.5	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
	1.6	Issues related to drug and alcohol abuse are referred to appropriate persons in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA	
2 Monitor and control drug and alcohol related incidences	2.1	OHS policies and procedures and safe work practices are followed in relation to monitoring and controlling drug and alcohol abuse to eliminate or minimise incidents and hazards
	2.2	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures
	2.3	Non-routine events in relation to monitoring and controlling drug and alcohol abuse are referred to authorised persons for directions according to established procedures
	2.4	Remedial action associated with monitoring and controlling drug and alcohol abuse are dealt with using acquired known solutions and skills related to company polices and procedures
	2.5	OHS policies and procedures and safe work practices are followed in relation to monitoring and controlling drug and alcohol abuse to eliminate or minimise incidents and hazards
3 Complete procedures for the monitoring and control of drug and alcohol incidents.	3.1	Reports on incidents of drug and alcohol abuse are completed and sent to the authorised persons as per the requirements found in established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for using of equipment and tools to perform work in a work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G324A Company procedures related to the abuse of drugs and alcohol

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.21 Drug and alcohol awareness and effects on the workforce

Evidence shall show an understanding of dealing with drug and alcohol abuse in a transmission construction worksite and other applicable gas industry workplaces. It includes:

- Knowledge and capability of identifying a worker who is affected by abuse of drugs or alcohol.
- Knowledge and understanding of relevant enterprise procedures for safely removing drug and alcohol affected workers from the worksite.
- Application of relevant policies and procedures

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the

normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Managing conflict in a sensitive environment. Carrying out Company Safety procedures for dealing with persons under the influence of drugs or alcohol.
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to follow company procedures to deal with incidents related to the abuse of drugs and alcohol.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Drug and alcohol policies and procedures

OHS policies and procedures related to alcohol abuse

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline

UEGNSG325A Coordinate the operation of relevant plant and equipment for transmission pipeline construction

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

Coordination of the operation of relevant plant and equipment necessary for the construction of transmission pipelines. This competency refers to: Excavator and vacuum lift; Bending machine and mandrels; Internal line up clamp; Tack Rig; Side Boom; Roller Cradles; Rock Saw; Bucket Wheel trencher; Sand Blasting Unit; Thermal Coil; Over ditch wrapping machine; Padding machines; Mitsu Bucket

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly

License to practice **3)**

related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged

Employability Skills	**5)** will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare plant and equipment for transmission pipeline construction	1.1	Work instructions are received and confirmed
	1.2	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.3	Easement is inspected and assessed using appropriate mediums and civil activities to determine in accordance with standard operating procedures relevant requirements
	1.4	Discussion occurs with all persons to establish and confirm work schedule
	1.5	Suggestions to assist with constructing pipeline easements are made to others involved in the work
	1.6	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored according to established procedures
	1.7	Scope of responsibility under the relevant work permit isreceived and confirmed according to

ELEMENT	PERFORMANCE CRITERIA	
		requirements and established procedures with relevant persons
	1.8	Resources including equipment such as tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.9	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
	1.10	Third party issues are referred to appropriate persons in accordance with industry and community standards
2 Maintain relevant plant and equipment for transmission pipeline construction	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Work area is isolated and made safe and civil activities and construction of pipeline easements is carried out in accordance with given instructions and established procedures
	2.4	Easement is constructed and confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.5	Operational knowledge as applied to potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Remedial action associated with constructing pipeline easements are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete procedures for operation of relevant plant and equipment for the construction of transmission pipelines	3.1	Pipeline easement work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for using of equipment and tools to perform work in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G325 Plant and equipment for transmission pipeline construction A

(Coordinate)

G 2.3.16 Transmission pipeline construction OHS, environmental and cultural legislative and regulatory requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces

For Environmental:

- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits

For Cultural and Heritage Awareness:

- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.22 Effective communication on a gas transmission pipeline construction site (between operators and ground crew)

Evidence shall show an Knowledge of on-site pipeline construction communication strategies including:

- hand signals,
- satellite phones
- radios

G 2.3.24 Operation of transmission pipeline construction plant and equipment

Evidence shall show an understanding the general operating parameters of the following gas industry transmission pipeline plant and equipment:

- Compressors
- Grader
- Dozer
- Excavator
- Vacuum lift
- Bending machine
- Bending machine & mandrel
- Internal line up clamp
- Tack Rig
- Side Boom
- Roller Cradles
- Trenching Equipment
- Bucket Wheel trencher
- Grit Blasting Unit
- Thermal Coil
- Padding machines
- Mitsu Bucket
- Crane (Rough Terrain)
- Crane Truck
- Flood pump
- Squeeze pump
- Drying Plant

G 4.1.22 Knowledge of the capability and capacity of gas industry transmission pipeline construction plant and equipment across variable terrain and environment

Evidence shall show an understanding of how plant and equipment reacts in a variety of terrain and climates including:

- dry weather versus humid weather, and in different geographical environment eg sand versus mixture of sand and rock and purely rock.
- Application of engineering requirements for use of construction plant and equipment across variable terrain and environment

G 4.1.23 Dealing with contingencies in a remote area

Evidence shall show an understanding of survival techniques

in remote areas including:

- survival techniques in remote areas eg running out of fuel/communications equipment, minor maintenance requirements.
- Planning for contingencies in remote areas

G 4.1.24 Loading capacity and scheduling requirements for the delivery of plant and equipment on vehicles across state roads and tracks

Evidence shall show an understanding of loading capacity including:

- Understanding of loading capacity and scheduling requirements for the delivery of plant & equipment on vehicles across state roads and tracks.
- Planning for contingencies eg rain, floods, breakdowns etc

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the

most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Monitor the effective use of plant and equipment. Ability to deal with conflict. Ability to supervise staff. Organise equipment according the needs of the project incorporating environmental/geological constraints (logistical organisation). Dealing with and reacting to a variety of contingencies eg rain and transport of plant and

		equipment.
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies.

This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to maintaining pipeline easements.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Transmission Pipeline Plant and Equipment

Transmission Pipeline Construction Tools and Equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.

UEGNSG326A Coordinate and monitor staff and contractors

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the coordination and monitoring of staff and contractors working on a transmission pipeline construction worksite. It requires the application of skills and knowledge to provide information, guidance and direction to staff and contractors in the conduct of their duties. It does not cover the high levels of technical expertise required to actually perform the services but focuses on the key knowledge and skills required to supervise, coordinate and monitor the process from a work supervision and contractor management perspective. The competency standard is applied against the procedures found under the latest version of AS 2885.1 and AS 2885.4 in a Gas Transmission Pipeline Construction context.

Application of the Unit

Application of the Unit

2)

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills **5)**

Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for supervising and monitoring staff and contractors	1.1 Work schedule(s), including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	1.2 Contractor obligations such as relevant insurance requirements and OHS/plant requirements are identified and managed in accordance with established company procedures
	1.3 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.4 Risk control measures are identified, prioritised and evaluated against the work schedule
	1.5 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.6 OHS, environmental, cultural and sustainable energy policies and procedures are obtained and

ELEMENT	PERFORMANCE CRITERIA	
		confirmed for the purposes of the work performed and communicated
	1.7	Relevant work permits are checked to ensure that work performed is done according to requirements and established procedures
	1.8	Resources including persons, equipment, tools and personal protective equipment required for the job are identified and scheduled in accordance with project management plans
	1.9	Contractual requirements, such as qualifications of personnel to perform the work, competency of the contractor, site induction and condition of equipment are confirmed
	1.10	Confirmation of adequate access for work crews to first aid personnel and amenities according to requirements
	1.11	Liaison and communication issues with authorised persons, authorities, clients and land-owners are resolved
	1.12	Persons participating in the work are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with established procedures
	1.13	Site is prepared according to work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.14	Road signs, barriers and warning devices are positioned in accordance with requirements
2 Monitor and supervise staff and contractors	2.1	OHS policies and procedures and safe work practices are followed by all personnel to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed

ELEMENT	PERFORMANCE CRITERIA	
	2.3	Essential Knowledge and Associated Skills is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Staff and contractor activity is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported according to established procedures
	2.6	Solutions to non-routine problems are identified and actioned using acquired Essential Knowledge and Associated Skills according to requirements
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8	First Aid and other related work procedures are performed according to requirements and established procedures.
	2.9	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved.
2 Complete monitoring and supervision records	3.1	Inspection of the job is checked against works schedule to determine conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Waste materials are safely disposed of and the work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned,

ELEMENT	PERFORMANCE CRITERIA
	checked and returned to storage in accordance with established procedures
	3.5 Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6 Data is accurately recorded and work completion records, reports, drawings, documentation and any other relevant information is finalised and processed according to established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for using of equipment and tools to perform work in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G326A Transmission pipeline staff and contractor

G 2.3.16 Transmission pipeline construction OHS, environmental and cultural legislative and regulatory requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS

- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces
- For Environmental:
- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits
- For Cultural and Heritage Awareness:
- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.18 Effective communication with third party asset owners in exposing, surveying and reinstating their assets safely

Evidence shall show an understanding of how to effectively communicate with third party asset owners about:

- exposing, surveying and re-instating their assets safely and effectively

G 2.3.21 Knowledge of ASNZ 2885 for transmission pipeline construction crews

Evidence shall show an understanding of the relevant sections of:

- ASNZ 2885 dependent on the endorsement area. eg Hydro test only needs 2885.5.

G 2.3.22 Effective communication on a gas transmission pipeline construction site (between operators and ground crew)

Evidence shall show an Knowledge of on-site pipeline construction communication strategies including:

- hand signals,
- satellite phones
- radios

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory

level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.21 Drug and alcohol awareness and effects on the workforce

Evidence shall show an understanding of dealing with drug and alcohol abuse in a transmission construction worksite and other applicable gas industry workplaces. It includes:

- Knowledge and capability of identifying a worker who is affected by abuse of drugs or alcohol.
- Knowledge and understanding of relevant enterprise procedures for safely removing drug and alcohol affected workers from the worksite.
- Application of relevant policies and procedures

G 4.1.22 Knowledge of the capability and capacity of gas industry transmission pipeline construction plant and equipment across variable terrain and environment

Evidence shall show an understanding of how plant and equipment reacts in a variety of terrain and climates including:

- dry weather versus humid weather, and in different geographical environment eg sand versus mixture of sand and rock and purely rock.
- Application of engineering requirements for use of construction plant and equipment across variable terrain and environment

G 4.1.23 Dealing with contingencies in a remote area

Evidence shall show an understanding of survival techniques in remote areas including:

- survival techniques in remote areas eg running out of fuel/communications equipment, minor maintenance requirements.
- Planning for contingencies in remote areas

G 4.1.24 Loading capacity and scheduling requirements for the delivery of plant and equipment on vehicles across state roads and tracks

Evidence shall show an understanding of loading capacity including:

- Understanding of loading capacity and scheduling requirements for the delivery of plant & equipment on vehicles across state roads and tracks.
- Planning for contingencies eg rain, floods, breakdowns etc

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
  - the decision making environment
  - group decision making
  - guidelines for making decisions
  - decision making aids and support systems
  - negotiation with internal and external stakeholders
  - the nature of negotiation
  - strategy and tactics of bargaining
  - pre-negotiation essentials
  - communication in negotiation
- resolve conflict with internal or external stakeholders
  - dealing with negotiation breakdowns
  - social context of negotiation
  - power in negotiation
  - ethics in negotiation.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill**	**Item List**

	is to be demonstrated	
A	All	Interpret technical drawings and symbols Emergency response procedures in place Schedules communicated/coordinated to persons Carry out job safety analysis and inductions Obtain work permit Relevant knowledge of the latest version of AS 2885.1 and AS 2885.4 Australian and New Zealand Standard Apply basic planning skills Work utilising relevant OHS and environmental legislation, regulations, codes of practice, policies and procedures Maintain a safe clean workplace Contractor management Communicate effectively in the workplace Problem solving skills Maintain documentation Planning and organising
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in supervising and monitoring contract staff.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation supervision and monitoring contract staff

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Access preparation

Permit to Work

Permit to Access Land

Approval for construction

Stake holder approvals

Verification and identification of third party assets

Environmental and cultural heritage controls

Maps and Drawings

Established Procedures

PPE and First Aid equipment

Resources

Records/documentation

Safe working procedures

Relevant Persons

Traffic Control

Assessing risk

Competency

RANGE STATEMENT

Interpersonal skills

Plant and Equipment used in Transmission Pipeline Construction

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.

UEGNSG327A Coordinate transmission pipeline construction operations

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This competency standard unit covers the coordination of transmission pipeline construction activities. This competency refers to the following pipeline construction activities:

Backfill; Clear and Grade; Ditching; Hydro Testing; Joint Coating; Lower and Lay; Mechanical (minor maintenance); String and bend; Welding.

Note: This unit has 9 (nine) endorsement areas which are outlined in detail in the Range Statement (section 7 of this competency standard unit).

Application of the Unit

Application of the Unit

2)

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEGNSG320A	Establish right of way access for transmission pipeline construction
UEGNSG328A	Supervise the operation of relevant plant and equipment for transmission pipeline construction

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 "Literacy and Numeracy"

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan for transmission pipeline construction activities	1.1 Work instructions are received and confirmed
	1.2 OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed.
	1.3 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.4 Alignment sheets are used to determine correct construction operations against the work schedule and is checked for a quality outcome to minimise risk and damage to property, commerce and stakeholders in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.5	Worksite is inspected and assessed using appropriate resources to determine requirements in accordance with standard operating procedures and relevant requirements
	1.6	Discussion occurs and suggestions made and received with all persons to establish and confirm work schedule
	1.7	Scope of responsibility under the relevant work permit where applicable is received and confirmed according to requirements and established procedures with relevant persons
	1.8	Resources including qualified procedures, personnel, plant, equipment, tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.9	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident
	1.10	Client issues where applicable are referred to appropriate persons in accordance with industry and community standards
2 Carry out transmission pipeline construction operations	2.1	OHS policies, procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working aloft, and use of tools and equipment, techniques and practices are safely followed in accordance with requirements to eliminate the prospects of incidents
	2.3	Work area is made safe and pipeline construction activities are carried out in accordance with given instructions and established procedures
	2.4	Pipeline construction activities are carried out in

ELEMENT	PERFORMANCE CRITERIA	
		an agreed timeframe and to quality standards and the approved procedures with a minimum of waste according to requirements and established procedures
	2.5	Operational knowledge as applied to potential hazards and safety risks is reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Remedial action associated with pipeline construction operations isdealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks and data collection relating to the quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete transmission pipeline construction operations	3.1	Pipeline construction operations are monitored to ensure integrity of the pipe and the coating is maintained
	3.2	Compliance against the work schedule is maintained and any anomalies are reported to authorised persons in accordance with established procedures
	3.3	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.4	Tools, equipment and any surplus resources and waste materials are where appropriate, removed, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures

ELEMENT	PERFORMANCE CRITERIA
	3.6 Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for maintaining pipeline easements to perform work in a transmission pipeline construction industry work environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G327A Transmission pipeline construction operations

G 2.3.16 Transmission pipeline construction OHS, environmental and cultural legislative and regulatory requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces

- For Environmental:
- Weed mitigation
- Erosion control
- Emission laws
- Quarantine laws
- Licenses
- Permits
- For Cultural and Heritage Awareness:
- Cultural and heritage awareness tagging
- Understanding the role of the cultural monitor
- Uncovering of cultural/heritage artefacts
- Understanding heritage and cultural issues
- Understanding legislative and regulatory requirement applicable in working situations

G 2.3.17 Knowledge of right of way set out and ditch line

Evidence shall show an understanding of translation of survey techniques into the right of way environment such as:

- Survey markers and off set markers, their meaning and relevant work applications.

G 2.3.19 Knowledge of pipeline protective systems including bedding and padding materials

Evidence shall show an understanding of the methods of protecting the pipeline from third party interaction:

- use of marker tape, bedding materials, marker post signage.

G 2.3.20 Operation of portable high pressure equipment

Evidence shall show an understanding of safe operation of the following:

- high pressure equipment hoses and whip checks
- Exclusion zone awareness
- Specific signage requirements for using high pressure equipment

G 2.3.21 Knowledge of ASNZ2885 for transmission pipeline construction crews

Evidence shall show an understanding of the relevant sections of:

- ASNZ 2885 dependent on the endorsement area. eg Hydro test only needs 2885.5.

G 2.3.22 Effective communication on a gas transmission pipeline

construction site (between operators and ground crew)

Evidence shall show an Knowledge of on-site pipeline construction communication strategies including:

- hand signals,
- satellite phones
- radios

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.21 Drug and alcohol awareness and effects on the workforce

Evidence shall show an understanding of dealing with drug and alcohol abuse in a transmission construction worksite and other applicable gas industry workplaces. It includes:

- Knowledge and capability of identifying a worker who is affected by abuse of drugs or alcohol.
- Knowledge and understanding of relevant enterprise procedures for safely removing drug and alcohol affected workers from the worksite.
- Application of relevant policies and procedures

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
- the decision making environment

- group decision making
- guidelines for making decisions
- decision making aids and support systems
- negotiation with internal and external stakeholders
- the nature of negotiation
- strategy and tactics of bargaining
- pre-negotiation essentials
- communication in negotiation
- resolve conflict with internal or external stakeholders
- dealing with negotiation breakdowns
- social context of negotiation
- power in negotiation
- ethics in negotiation.

EKAS Clause below to be completed for the welding endorsement only:

G 4.1.25 Metallurgy

Evidence shall show an understanding of metallurgy including:

- Understanding of the welding procedures and the limits of essential variables in accordance with ASNZ 2885.
- Effects of operating conditions on pipelines e.g. changes in operating pressures and temperatures
- Effects of geological and environmental conditions on pipeline

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit of competency and must be read in conjunction with the performance criteria and the range statement of the unit of competency and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be

more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines – UEG11". Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range; and
  - Apply sustainable energy principles and practices as specified in the performance criteria and range; and
  - Demonstrate an understanding of the essential knowledge and associated skills as described in 'Essential Knowledge and Associated Skills' of this unit; and
  - Demonstrate an appropriate level of employability skills; and
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below: Must complete A, and one of the following groups B, C, D, E, F, G, H, I, J depending on the endorsement.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	OHS Communication Environment Conflict resolution Effective Supervision Effective Planning Manage pipeline construction records Manage pipeline construction procedures Draw at least once on the relevant essential

		knowledge and skills related to the endorsement area
B	All	Backfill: Ensuring that bedding material meets specified requirements Ensuring the soil compaction meets specified requirements Correct placement of marker tape
C	All	Clear and Grade: Manage survey marker placement procedures Ensuring environmental and cultural compliance
D	All	Ditching: Ensuring compliance with regulator standards related to excavation Selection and ensuring correct operation of required plant, tools and equipment for various ground conditions
E	All	Hydro Testing: Ensuring the suitability and/or availability of water source for testing and practicable disposal Ensure effective safety controls are in place, particularly at public access points Working knowledge of ASNZ 2885.5 requirements Ensuring relevant OHS procedures are applied, particularly in relation to

		working out of normal hours
F	All	Joint Coating: Ensure applicators follow manufacturers guidelines Ensure effective joint coating testing techniques are applied
G	All	Lower and Lay: Ensure crew correctly places pipe string Ensure pipe coating integrity is maintained Effective communication is applied to coordinate multi point lift of the pipe string Effective coordination with as built survey
H	All	Mechanical (Minor Maintenance): Ensure that pipeline construction plant, equipment and tools are effectively maintained to meet construction schedule
I	All	String and Bend: Understand capabilities of stringing plant, equipment and tools Limitations of the Vacuum Lift and consequences of incidents Appropriate motor vehicle license and skills training for ROW driving Accurate calculations for determining sequence of delivery of pipes Bending Procedures.

		Understand capabilities of bending plant, equipment and tools Understanding the consequence of shifting centres of gravity Trigonometric calculations for bending procedures
J	All	Welding: Ensuring welding joints are performed in accordance with welding procedures Ensuring welding plant, equipment and tools are suitable to produce welded joints that meet specified requirements Ensuring relevant OHS procedures are applied, particularly in relation to working with potentially dangerous tools and equipment in a high temperature environment

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4) Assessment Method(s):

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 "Assessment Guidelines".

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit of competency as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the maintaining of pipeline easements.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Legislative and regulatory requirements for rigging

Rigging equipment, tools and materials

Crane Truck

Data Collectors

Generator

Permit to Work

Specific unit endorsement outcomes

This competency standard unit is presented as a composite unit that has nine (9) specific outcomes. There are nine (9) distinct endorsable outcomes in which competence can be achieved and which is to be reported. This is done because of the high degree of commonality in knowledge, process or function. Reporting the unit with the inclusion of an endorsement allows for the formal identification of the necessary applied skills related to workplace outcomes and at the same time reflects the work classification(s) generally understood by industry. The specific unit outcomes are:

1. Backfill
2. Clear and Grade
3. Ditching
4. Hydro Testing
5. Joint Coating

RANGE STATEMENT

6. Lower and Lay

7. Mechanical (minor maintenance)

8. String and bend

9. Welding

This unit shall be demonstrated against the coordination of construction activities which are directly aligned to the 9 endorsements. These endorsements specify designated plant and equipment. The endorsements and related plant, equipment and other variables are as follows:

Backfill	All	Padding Machine Excavator Grader Dozer Front End Loader Mitsu Bucket
Clear and Grade	All	Dozer Excavator Grader Backhoe Front End Loader
Ditching	All	Excavator Rock Saw Bucket Wheel Trencher General Digging Conditions Hard Digging Conditions
Hydro Testing	All	Crane Truck Side Boom Rough Terrain Crane Pumps Dead Weight Tester Temperature Probes and Sensors Headers Drying Plant After Cooler Pig Chart Recorder

		Lighting Towers Gauging Plate
Joint Coating	All	Grit Blasting Rig (Skid Steer) Wrapping Machine Thermal Coil Temperature Probes and Sensors
Lower and Lay	All	Side Boom with Roller Cradles Excavator
Mechanical (minor maintenance)	All	Excavator and Vacuum Lift Bending Machine and Mandrels Internal Line up Clamp Tack Rig Side Boom Roller Cradles Rock Saw Bucket Wheel Trencher Thermal Coil Over Ditch Wrapping Machine Padding Machines Mitsu Bucket
String and bend	All	Excavator Bending Machine with Mandrels Side Boom Pipe Truck Vacuum Lift
Welding	All	Side Boom Internal Line up Clamp Tack Rig Temperature Probes and Sensors Headers

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG328A Supervise the operation of plant and equipment for the construction of transmission pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard unit covers the supervision of personnel that undertake the operation of relevant plant and equipment used in the construction of transmission pipelines. This unit includes understanding the functions undertaken for transmission pipeline construction and the capabilities and the limits of plant, equipment and tools.

It also includes supervising the operations to ensure occupational health and safety, environmental and cultural heritage issues are effectively addressed in the transmission pipeline construction process.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability

Employability Skills	**5)** Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare work schedule for use of plant and equipment	1.1	Work instructions are received and confirmed
	1.2	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.3	Check the work schedule and ensure the resources required have been checked for compliance in accordance with standard operating procedures and manufacturers specifications
	1.4	Discussion occurs with all persons to establish and confirm work schedule
	1.5	Information regarding previous work activities are sought and appropriate actions taken with regard to current work schedule and use of plant and equipment
	1.6	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored according to established

ELEMENT	PERFORMANCE CRITERIA	
		procedures
	1.7	Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons
	1.8	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident
2 Undertake the supervision of operations as per the work schedule	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Instructions are provided for any remedial action associated with plant and equipment operation according to established procedures
	2.3	Instructions are provided to operators to ensure the work area is made safe in accordance with established procedures
	2.4	Hazards and risks related to safety and plant operation are identified through the application of operational knowledge and action is taken in accordance with established procedures
	2.5	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.6	Remedial action is taken using known solutions to ensure work schedule is met
	2.7	Supervision of plant and equipment operation is undertaken and ongoing checks are undertaken in accordance established procedures

ELEMENT	PERFORMANCE CRITERIA
3 Undertake completion of work schedule according to established procedures	3.1 Plant and equipment usage is checked against the work schedule and anomalies are reported to authorised persons in accordance with established procedures
	3.2 Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3 Supervision of shutdown procedures is performed in accordance with established procedures to ensure environmental compliance and condition of plant and equipment is maintained
	3.4 Tools, plant and equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5 Appropriate persons are notified of work completion according to established procedures
	3.6 Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for using of equipment and tools to perform work in a utilities industry work environment. The extent of the essential knowledge and associated skills (EKAS) required is given in Volume 2 - Part 2.2 EKAS. It forms an integral part of this unit.

KS01-G328A Plant and equipment for transmission pipeline construction (Supervise)

G 1.1.1 Utilities industries calculations

Evidence shall show an understanding of performing calculations as required in utilities industries workplaces, indicated by the following:

- perform industry calculations
- interpret graphs and tables
- transpose formulas
- calculations include, gas rates, pressure corrections, volumes, area, measurements purging calculations
- systematic problem solving

G 1.1.2 Use equipment and tools in the utilities industries

Evidence shall show an understanding of using equipment and tools in utilities industries workplaces, specifically:

- correct use of utilities industry equipment and tools which include drills, shovels, hammers, knives, saws, hand tools, small generator sets, air compressors and hoses, pneumatic and/or electric hammers, rollers and compactors, concrete and ceramic cutters, boring equipment, trenching equipment.
- correct use of utilities industry PPE.

G 1.1.3 Overview of workings in the utilities industries

Evidence shall show an understanding of the different utilities industries, indicated by the following:

- overview of authorities and regulatory bodies
- overview of the electrical supply (transmission and distribution and generation) industry
- overview of the Gas Industry

- overview of the water industry
- overview of the telecommunications industry
- their impact on work to be undertaken and risks associated with work to be performed

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and

minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's

specifications

- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas

Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently

- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice

- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.3.16 Transmission Pipeline Construction OHS, Environmental and Cultural Legislative and Regulatory Requirements

Evidence shall show an understanding of the practical work requirements embedded in the OHS, Environmental and Cultural Legislation and Regulations.

For OHS:

- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc Hazard Identification
- Manual handling
- Basic First Aid
- MSDS
- Understanding how to apply control measures
- Emergency Response
- Signage
- Licenses and tickets
- Working at heights
- Awareness of confined spaces
- For Environmental:
  - Weed mitigation
  - Erosion control
  - Emission laws
  - Quarantine laws
  - Licenses
  - Permits
- For Cultural and Heritage Awareness:
  - Cultural and heritage awareness tagging
  - Understanding the role of the cultural monitor
  - Uncovering of cultural/heritage artefacts
  - Understanding heritage and cultural issues
  - Understanding legislative and regulatory requirement applicable in working situations

G 2.3.22 Effective Communication on a Gas Transmission Pipeline Construction Site (between operators and ground crew).

Evidence shall show an Knowledge of on-site pipeline construction communication strategies including:

- hand signals,
- satellite phones
- radios

G 2.3.24 Operation of Transmission Pipeline Construction Plant and Equipment.

Evidence shall show an understanding the general operating parameters of the following gas industry transmission pipeline plant and equipment:

- Compressors

- Grader
- Dozer
- Excavator
- Vacuum lift
- Bending machine
- Bending machine & mandrel
- Internal line up clamp
- Tack Rig
- Side Boom
- Roller Cradles
- Trenching Equipment
- Bucket Wheel trencher
- Grit Blasting Unit
- Thermal Coil
- Padding machines
- Mitsu Bucket
- Crane (Rough Terrain)
- Crane Truck
- Flood pump
- Squeeze pump
- Drying Plant

G 3.1.1 Supervise labour

Evidence shall show an understanding of the requirements to supervise Gas Industry labour, indicated by the following:

- understanding of basic management techniques
- understanding relevant legislation including industrial relations, equal employment opportunity and anti discrimination
- understanding of relevant awards and certified agreements
- understanding of organisational policies and procedures
- coaching and training skills
- ability to interact with persons from a range of social, cultural and ethnic backgrounds and physical and mental abilities.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill**	**Item List**

	is to be demonstrated	
A	All	Application of organisational management systems and procedures for occupational health and safety which includes: • identifying hazards, • managing risk through the incorporation of effective control measures.
B	All	Working Knowledge of the standard operating procedures and the effective and safe use of Transmission Pipeline Construction small plant and equipment including the following: • General concrete mixer • General trolley • Non pressurised pumps and hoses • Wheelbarrows • Traffic barriers • Extra low voltage lighting equipment • Hand held tools • Gas detectors • Holiday detection equipment • Power tools • Pressurised pumps and hoses • Hand wrapping machines
C	All	Ability to communicate instructions to transmission pipeline construction workforce, contractors and stakeholders, including communication with ground crew during

		operations.
D	All	Working Knowledge of relevant legislation, regulations, codes of practice, standards, policies, procedures and permits pertaining to transmission pipeline construction operations.
E	All	Working knowledge of the relevant cultural heritage requirements for transmission pipeline construction operations.
F	All	Working Knowledge of relevant occupational health and safety requirements for Transmission Pipeline Construction Operations including the following: • Procedures for using dial before you dig service or its equivalent. • Location of other services such as utilities and rail and other transport infrastructure. • Effectively use MSDS sheets • Prepare Job Hazard Analyses • Implement control measures for identified Hazards • Hazardous area requirements adhered to • Correct use of PPE appropriate to Gas Industry • Hazard identification in

		pipeline construction • Safe manual handling techniques
G	All	Read and interpret transmission construction maps and drawings including the identification of key information such as symbols.
H	All	Ability to read, interpret and instruct subordinate staff on transmission construction procedures and other documentation.
I	All	Demonstrate a strategy for the coordination of an effective response to a transmission pipeline construction emergency.
J	All	Demonstrate a strategy for protecting the environment whilst constructing a transmission pipeline that incorporates the following items: • Installation of siltation control methods such as straw and synthetic bails • Curb side filter rolls • Erosion prevention • Weed spread mitigation • Application of MSDS information • Noise control techniques • Odourant handling and testing processes • Excavation restoration, compaction and seeding • Applying green tagging for flora and fauna

		habitat • Application of cultural heritage awareness and protection requirements for a pipeline construction site
K	All	Demonstrate a strategy for dealing with an environmental incident that includes the following items: • Control and minimise the impact of an environmental incident • Control environment incident • Incident Investigation • Applying incident reporting and notification procedures • Review environmental incident • Make recommendations to prevent reoccurrence • Implement recommendations
L	All	Working knowledge of transmission pipeline construction functions which include the following: • Backfill • Clear and Grade • Ditching • Hydro Testing • Joint Coating • Lower and Lay • Mechanical (Minor Maintenance) • String and Bend • Welding
M	All	Working Knowledge of the

		safe and efficient operation, including regulatory requirements, and maintenance schedule for large plant and equipment including the following: • Dozer • Excavator • Grader • Backhoe • Front End Loader • Side Boom • Internal Line Up Clamp • Tack Rig: Dozer or Skid Steer • Grit Blasting Rig: • Side Booms with Roller Cradles • Crane Truck: Heavy Rigid Truck • Rough Terrain Crane Note: the candidate will be expected to ensure that the equipment is operated by appropriately authorised/licensed personnel.
N	At Least 2 of the items in the list	Working Knowledge of the safe and efficient operation, including regulatory requirements, and maintenance schedule for large plant and equipment including the following: • Excavator with vacuum lift • Bending Machine with Mandrel • Rock Saw • Bucket Wheel Trencher

		• Over ditch Wrapping Machine • Thermal Coil • Padding Machines • Traffic Control Note: the candidate will be expected to ensure that the equipment is operated by appropriately authorised/licensed personnel.

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in maintaining pipeline easements.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the key competencies.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3

'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to supervising the operation of transmission pipeline construction plant and equipment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate persons (3)

This unit contains Employability Skills

Documentation (2)

Documentation (3)

This unit contains Employability Skills

Emergency equipment

Emergency Response Manual

Established procedures and requirements

Inspect

Legislation

OHS policies and procedures

Personal Protective Equipment

Procedures

Relevant Regulation and Procedures

Relevant Sections of Standard Operating Procedures

Responsibility

RANGE STATEMENT

Traffic control

Work plans/schedules

This Unit includes the supervision of transmission pipeline construction that requires operators to conduct functions utilising plant as per the following table:

Backfill	Padding Machine Excavator Grader Dozer Front End Loader
Clear and Grade	Dozer Excavator Grader Backhoe Front End Loader
Ditching	Excavator Rock Saw Bucket Wheel Trencher
Hydrostatic Testing	Crane Truck Side Boom Rough Terrain Crane
Joint Coating	Grit Blasting Rig Over Ditch Wrapping Machine Thermal Coil
Lower and Lay	Side Boom with Roller Cradles Excavator
Mechanical (minor maintenance)	Excavator and Vacuum Lift Bending Machine and Mandrels Internal Line up Clamp Tack Rig

	Side Boom Roller Cradles Rock Saw Bucket Wheel Trencher Thermal Coil Over Ditch Wrapping Machine Padding Machines Mitsu Bucket
String and bend	Excavator Bending Machine with Mandrels Side Boom
Welding	Side Boom Internal Line up Clamp Tack Rig

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission discipline.

UEGNSG329A Gas transmission pipeline surveillance

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the surveillance of Gas Industry pipelines. The competency standard is applied against the procedures found under AS 2885.3 — 2001 Australian and New Zealand Standard. The competency standard also refers to threat mitigation through identification of system non-conformance. The competency standard outlines the areas to be monitored; inspection of areas; system's pipe work; structures; fittings; equipment; organisational and statutory requirements and recording and reporting.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not

License to practice **3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Monitor gas pipeline system performance	1.1	Routine inspection of network is conducted and faults reported in a timely manner against work schedule(s) and established procedures and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons
	1.3	OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for gas pipeline surveillance are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for gas pipeline surveillance are identified,

ELEMENT	PERFORMANCE CRITERIA	
		scheduled and obtained and confirmed in working order
	1.8	Liaison and communication issues with authorised persons, authorities and clients are resolved and activities coordinated to carry out work
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Identification of gas pipeline system non-conformance	2.1	Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.2	Dealings with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3	Essential Knowledge and Associated Skills for the pipeline surveillance are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Leakages and damaged pipes and fittings are recorded in accordance with the work schedule and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Unplanned events in pipeline surveillance are undertaken with the scope of established procedures
	2.7	System faults and the operational condition of the network are identified and reported and known solutions are applied using Essential Knowledge and Associated Skills

ELEMENT	PERFORMANCE CRITERIA	
	2.8	Pressure and flow fluctuations outside acceptable limits are investigated and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Review, record and report on gas pipeline surveillance work	3.1	Solutions are developed based on consideration of relevant information and options and proposed solutions are communicated and implemented as required against works schedule and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Solution is implemented in accordance with standard operating procedures ensuring that action is correctly documented, the transaction is accurately processed and the customer is advised
	3.4	Work completion records, reports and documentation are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G329 Transmission pipeline surveillance A

G 3.3.1 Consulting appropriate persons to coordinate work and persons

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons on Gas Industry pipeline (Transmission) systems, indicated by the following:

- personal requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists

G 3.3.4 Liaise and communicate with relevant authorities

Evidence shall show an understanding of liaising with the relevant authorities in relation to Gas Industry pipelines (Transmission), indicated by the following:

- legislative, OHS and environmental requirements applicable to a specific commissioning/decommissioning of a pipeline
- authorities that need to be contacted when planning the commissioning/decommissioning of pipeline
- requirements and procedures to obtain approvals/permits from relevant authorities
- requirements for advising relevant authorities of intended activities
- accurate and complete records of all communications

with relevant authorities.

G 3.3.7 Prepare reports

Evidence shall show an understanding of the preparing of reports applicable to Gas Industry pipelines (Transmission), indicated by the following:

- procedures and legislative requirements for maintaining appropriate reporting and recording systems
- job records and process information to appropriate/relevant department
- non-conformances and incidents in accordance with procedures and legislative requirements.

G 3.3.9 Undertake final inspections

Evidence shall show an understanding of undertaking the inspection of Gas Industry pipelines (Transmission), indicated by the following:

- identification of the code requirements that must be met
- procedures to monitor electrical and electronic systems and valves and regulators
- procedures to follow and assess the quality of work.

G 3.3.10 Notify of completion of work

Evidence shall show an understanding of the notification of completion of work procedures in Gas Industry pipelines (Transmission), indicated by the following:

- documentation to be completed and processed when the work is completed
- authorities/councils that need to be notified in relation to site reinstatement
- recording and reporting system accurately and in accordance with procedures.

G 3.3.15 Carry out repair work and make amendments or modifications as required

Evidence shall show an understanding of the requirements to carry out repair work and to make amendments or modifications as necessary on a Gas Industry pipeline (Transmission), indicated by the following:

- procedures, OHS and environmental requirements in relation to carrying out repair work
- conduct repair work with required tools and equipment following appropriate work procedures
- procedures to follow when evaluating and implementing amendments or modifications

- job progress in relation to repair work and/or amendments or modifications
- procedures to assess quality of work and compliance with procedures, legislative and environmental requirements.

G 3.3.20 Prepare work site for repairs/modification work

Evidence shall show an understanding of the preparation of Gas Industry workplaces for repairs/modifications work, indicated by the following:

- legislative, OHS and environmental requirements relevant to establishing and maintaining a safe workplace
- options for maintaining supply
- procedures for locating other services on the worksite
- identification of possible ignition sources and the taking of appropriate action
- risk assessments of the worksite including OHS risks
- requirements for consulting relevant authorities and obtaining required approvals
- procedures for the coordination of all activities and persons
- maintenance of accurate and complete records of all communications with relevant authorities and persons.

G 3.3.36 Perform routine maintenance on high pressure pipelines, facilities and equipment

Evidence shall show an understanding of the requirements to undertake the routine maintenance on high pressure pipeline, facilities and equipment, indicated by the following:

- different types of maintenance procedures appropriate for high pressure pipelines, facilities and equipment
- maintenance procedures relevant to the required work
- tools, instruments and all other equipment that is used safely and effectively during maintenance tasks
- routine maintenance following manufacturer's specification, OHS requirements and procedures in a efficient manner.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
- Demonstrate an appropriate level of employability skills

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	AS 2885.3 Pipelines-Gas and Liquid

		Petroleum Gas Operations and Maintenance: Sections 3, 4.3, 5.3.6.1, 5.4.1, 5.4.3, 5.5 Section 6 — Threat Mitigation
B	All	Inspection techniques Identifying faults Recording information
C	All	Operating hand held tools Operating power tools Lifting equipment Mechanical excavation equipment Electronic metering systems Recording systems Motorised equipment Communication equipment
D	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Apply job safety analysis Maintain a safe and clean workplace Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace Apply basic planning and job completion skills Use of technology
E	At least one occasion	Deal with an unplanned

		event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of ground transmission pipeline surveillance.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured

environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to gas pipeline surveillance.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section.

Areas to be monitored

Inspection of areas

System's pipe work

Structures

Fittings

Organisational and statutory requirements (3)Recording and reporting

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Transmission.

UEGNSG401B Maintain cathodic protection systems

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers maintaining of cathodic protection (CP) to prevent corrosion in steel pipelines. The competency standard covers the types of cathodic protection faults, the applicable Australian Standards as well as the location and the type of electrical equipment used and the testing procedures and related maintenance requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection,

License to practice **3)**

telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan for maintenance activities	1.1	Cathodic protection system maintenance activity is identified and confirmed according to the work schedule(s), drawings, plans, requirements and established procedures
	1.2	Readings from cathodic protection monitoring equipment and galvanic anode beds are taken at regular intervals and data collected in accordance with
	1.3	Relevant work schedules and requirements are communicated to all persons and identified for all work sites
	1.4	OHS, environmental and sustainable energy policies and procedures related to the maintaining of cathodic protection systems are obtained and confirmed for the purposes of the work performed and communicated
	1.5	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.6	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.7	Relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.8	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained

ELEMENT	PERFORMANCE CRITERIA	
		and confirmed in working order
	1.9	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.10	Liaison and communication issues with authorised persons, authorities, clients and land-owners are resolved to carry out work where necessary
	1.11	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.12	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.13	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Maintain and adjust cathodic protection system equipment	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills for maintaining of cathodic protection systems are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Cathodic protection system is maintained at maximum efficiency and the maintaining of cathodic protection systems is carried out in accordance with the work schedule and to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Unplanned events in the maintaining of cathodic protection systems is undertaken with the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Data is collected and interpreted and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Re-establish system and notify completion of work	3.1	System is re-established in order to meet pipeline system operational requirements and the work undertaken is checked against work schedules for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Work completion records, reports as installed/modified drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for maintaining cathodic protection systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G401B Cathodic protection system maintenance

G 3.4.1 Understanding corrosion processes

Evidence shall show an understanding of corrosion as it applies to cathodic protection on a Gas Industry pipeline, indicated by the following:

- understanding corrosion processes.

G 3.4.2 Interpreting system design, planning and operation

Evidence shall show an understanding of interpreting system design, planning and operation as it applies to cathodic protection on a Gas Industry pipeline, indicated by the following:

- understanding system design, planning and operation including safe design principles.

G 3.4.3 Use and understand cathodic protection systems

Evidence shall show an understanding of how to use the systems required in relation to cathodic protection on a Gas Industry pipeline, indicated by the following:

- interpret system design, planning and operation
- using CP system in relation to other services
- undertaking basic electrical measurement and adherence of electrical principles
- understanding of coating requirements and their purpose.

G 3.4.4 Select and use appropriate tools and equipment for cathodic protection

Evidence shall show an understanding of the requirements to select and use the appropriate tools and equipment for cathodic protection, indicated by the following:

- testing and inspection methods and their appropriate applications
- appropriate use of test and inspection equipment.

G 3.4.5 Interpreting topographical and geographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may

be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this will incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Types of faults: Coating damage/deterioration Interference from other systems Anode not working Equipment fault/failure
B	At least 4	Checks and tests on CP systems: Potential surveys On/off potential surveys Coating defect assessment

		surveys (DCVG method, Peason technique/method, over pipeline potential method) Loop impedance testing Anode bed testing Soil resistivity testing Interference testing
C	All	Knowledge of relevant Australian Standards or their equivalents: AS 2885 AS 2430 AS 1768 AS 1596 AS 1697 AS 2832.1 AS 3000 AS 2239 AG 603 AS 2865
D	All	Interpreting cathodic protection data system surveys and readings Locating and repairing faults Procedures for coating surveys Checking and maintaining potentials
E	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above

		listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Units.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in maintaining cathodic protection systems.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Units applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to maintaining cathodic protection systems.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Types of CP faults

Applicable Australian standards/legislation

Location

Electrical equipment

Types of checks and tests

Test equipment

Components and systems

Relevant documentation

Relevant authorities and other stakeholders/authorities

Location for maintaining CP systems

Drawings and specifications

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cathodic protection.

UEGNSG402B Install cathodic protection systems

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the installing of cathodic protection (CP) to prevent corrosion in steel pipelines. The competency standard also covers the appropriate Australian standards and the location for maintaining cathodic protection system; components of the system; representation of other utilities; types of drawings and specifications; test equipment; types of cathodic protection faults.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan installation of cathodic protection system	1.1	Cathodic protection system installation procedures are planned in accordance with work schedule(s), including drawings, plans, requirements and established procedures
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to the installation of cathodic protection systems are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Data from completed surveys is analysed and work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Technical specifications and drawings are drafted from the analysed survey data and the relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.7	Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land-owners are resolved to carry out work where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Install cathodic protection system	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills for the installation of cathodic protection systems are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Approved specifications and drawings are reviewed and the performing of the installation of cathodic protection systems is carried out in accordance with the work schedule and to established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.6	Unplanned events in the installation of cathodic protection systems are undertaken with the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Test and commission CP System	3.1	Commissioning of the installed CP system and components is conducted against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Cathodic protection system is tested and further survey data collected and work completion records and documentation is finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for installing cathodic protection systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G402B Cathodic protection system installation

G 3.4.1 Understanding corrosion processes

Evidence shall show an understanding of corrosion as it applies to cathodic protection on a Gas Industry pipeline, indicated by the following:

- understanding corrosion processes.

G 3.4.2 Interpreting system design, planning and operation

Evidence shall show an understanding of interpreting system design, planning and operation as it applies to cathodic protection on a Gas Industry pipeline, indicated by the following:

- understanding system design, planning and operation including safe design principles.

G 3.4.3 Use and understand cathodic protection systems

Evidence shall show an understanding of how to use the systems required in relation to cathodic protection on a Gas Industry pipeline, indicated by the following:

- interpret system design, planning and operation
- using CP system in relation to other services
- undertaking basic electrical measurement and adherence of electrical principles
- understanding of coating requirements and their purpose.

G 3.4.4 Select and use appropriate tools and equipment for cathodic protection

Evidence shall show an understanding of the requirements to select and use the appropriate tools and equipment for cathodic protection, indicated by the following:

- testing and inspection methods and their appropriate applications
- appropriate use of test and inspection equipment.

G 3.4.5 Interpreting topographical and geographical maps and information

Evidence shall show an understanding of the requirements to interpret topographical and geographical information and maps for cathodic protection, indicated by the following:

- interpreting topographical and geographical maps and information.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Units and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical

equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 5	Components and system: Solar powered generation systems 240 volt power generation systems Insulation and monolithic joints Galvanic anode beds Battery banks — acid and lead acid Transformer rectifiers and CPUs Lighting protection

		equipment CP test points Kirk cells
B	At least 4	Checks and tests on CP systems: Potential surveys On/off potential surveys Coating defect assessment surveys (DCVG method, Peason technique/method, over pipeline potential method) Loop impedance testing Anode bed testing Soil resistivity testing Interference testing
C	All	Knowledge of relevant Australian Standards or their equivalents: AS 2885 AS 2430 AS 1768 AS 1596 AS 1697 AS 2832.1 AS 3000 AS 2239 AS 2865 AG 603
D	All	Interpret cathodic protection data system surveys and readings Implement cathodic protection tests and surveys Locate and repair faults Procedures for coating

		surveys Check and maintain potentials Install cathodic protection system
E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Units.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in installing cathodic protection systems.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Units applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B Carry out work activities in a utilities industry work environment

UEGNSG104B Comply with environmental policies and procedures

UEGNSG105B Establish the work site

BSBFLM312B Contribute to team effectiveness

BSBFLM303C Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall be demonstrated in relation to installing cathodic protection systems.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Applicable Australian standards/legislation

Location for maintaining CP Systems

Components and system

Representatives in other utilities

Types of checks and tests

Test equipment

Drawings and specifications

Types of CP faults

Components and systems

Relevant documentation

Relevant authorities and other stakeholders/relevant authorities

Location for maintaining CP systems

Drawings and specifications

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cathodic protection.

UEGNSG501B Operate gas infrastructure to meet nominated demand

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard covers the assessing and responding to anticipated demand. This competency standard also refers to Industry products and services; Authoritative sources; Product information; Stakeholders; Organisational requirements; Interpersonal skills; Nominated person(s); Product and service issues.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

UEGNSG203B Commission and decommission gas distribution pipelines

Or

UEGNSG304B Commission/decommission gas transmission pipelines

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to operate gas infrastructure to meet nominated demand	1.1	Information, requirements and established procedures are detailed, analysed and the extent of the preparation of the work determined for planning and coordination
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures for identified hazards are prioritised, implemented and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	Communicate with Gas Industry stakeholders, produce gas schedule based on bid and or nomination information
	1.6	Operation is carried out in accordance with organisational procedures
	1.7	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.8	Relevant stakeholders are provided with possible solutions and options within the scope,

ELEMENT	PERFORMANCE CRITERIA	
		acceptable cost and requirements
	1.9	Liaison and communication issues with relevant stakeholders are resolved and activities coordinated to carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
2 Operate gas infrastructure to meet nominated demand	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Work is performed and coordinated in accordance with a work schedule and to requirements
	2.3	Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and established procedures
	2.4	Schedule is produced according to the information collected in accordance with established procedures
	2.5	Any abnormal conditions are recognised and responded to in accordance with organisational procedures
	2.6	Solutions to problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.7	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures
3 Complete and review operation of gas infrastructure to meet nominated demand	3.1	Work undertaken is checked against schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Works completion records, reports, documentation and information is confirmed,

ELEMENT	PERFORMANCE CRITERIA
	processed and the appropriate persons notified as per established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for assessing and responding to anticipated demand.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G501 B **Meeting nominated demand**

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment

including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.7 Complete Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.9 Supervise transmission pipeline operations

Evidence shall show an understanding, applicable at a supervisory level, of gas transmission pipelines, indicated by the following:

- pipeline threats, identification and control
- pinpointing pipeline locations
- excavation machinery and their effects used near pipelines
- pipeline specifications
- coatings for corrosion protection
- HB105 Guide to Pipeline Risk Assessment in accordance with AS2885 Part 1 and Part 3
- applicable pipeline legislation, regulatory and advisory standards and codes of practice.

G 4.1.16 Demonstrate operational understanding of Gas Industry facilities and infrastructure

Evidence shall show an operational understanding required at a supervisory level for applicable Gas Industry facilities and infrastructure, including, but not limited to:

- regulation and metering facilities
- compression facilities
- gas processing facilities such as coal seam methane plants

- LPG processing facilities
- scraper stations and pigging facilities
- odourisation facilities
- reference to relevant operating policies and procedures

G 4.1.17 Demonstrate knowledge of pipeline systems

Evidence shall show an understanding required at a Gas Industry supervisory level of general principles associated with pipelines and other gas infrastructure, indicated by the following:

- identification, control and management of relevant threats against pipeline infrastructure and facilities
- identification of pipeline locations
- application of guidelines for the use of excavation machinery near pipelines and infrastructure and damage
- operational specifications and safe working limitations of pipelines and infrastructure
- principles of cathodic protection and corrosion mitigation
- HB105 Guide to pipeline risk assessment in accordance with AS2885.1, AS2885 Part 3
- applicable pipeline legislation, regulations, advisory standards and codes of practice.

G 4.1.19 Understand and apply commercial agreements in a Gas Industry environment

Evidence shall show an understanding of the knowledge of gas industry commercial agreements, indicated by the following:

- understanding the application of applicable commercial agreements and contractual requirements including, but not limited to:
  - Gas Supply Agreements (GSA)
  - Gas Transportation Agreements (GTA)
  - Gas Processing Agreements (GPA)
  - Gas Imbalance Trading procedures
  - Spot market contracts

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample instruments are included for Assessors in the Assessment Guidelines of this

Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill**	**Item List**

	is to be demonstrated	
A	At least 1	Work site context: Gas Industry production, transmission and distribution areas Location — control centres or other places where communication processes occur
B	All	Use of relevant computer systems Work requests from other parties Relevant procedures for equipment use Perform work under or without supervision Work carried out in regular or specified timeframe Written requests and reports
C	All	Locate, interpret and apply relevant information Analyse process functions and problems Apply relevant customer service policies and procedures Use appropriate workplace language and communication technologies and techniques Maintain relevant workplace records Demonstrate understanding of the essential knowledge and associated skills associated with this competency standard

		Demonstration of each element on several occasions
D	At least one occasion	Deal with unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incor-porated in holistic assessment with above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in operating gas infrastructure to meet nominated demand.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods

given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to assessing and responding to anticipated demand.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Areas to control

Gas infrastructure

Records/reports

Information systems

Industry products and services

Authoritative sources

Product information

Stakeholders

Organisational requirements

Interpersonal skills

Nominated person(s)

Product and service issues

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Control centre.

UEGNSG502B Control centre communication with gas industry stakeholders

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the usage of technical communication skills and techniques to effectively liaise and communicate with relevant parties to ensure gas deliveries and operations are carried out within contractual, operational and regulatory requirements. The competency standard refers to Industry products and services; Authoritative sources; Product information; Stakeholders; Organisational requirements; Interpersonal skills; Nominated persons; Product and Service issues.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not

License to practice **3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

UEGNSG203B Commission and decommission gas distribution pipelines

Or

UEGNSG304B Commission/decommission gas transmission pipelines

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the

Employability Skills **5)** qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan communication with Gas Industry stakeholders	1.1	Work schedules, including drawings, plans, requirements, established procedures and material lists are detailed and communicated to control centre, analysed as necessary and the extent of the preparation of the work determined for planning, coordination and follow-on communication purposes
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established control centre procedures and guidelines
	1.3	Risk control measures for identified hazards are prioritised, implemented and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed

ELEMENT	PERFORMANCE CRITERIA	
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Liaison and communication issues with authorised persons, authorities, clients, land-owners and other relevant parties are resolved and activities coordinated to carry out work
	1.8	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with established CC procedures
2 Identify and carrying out Gas Industry stakeholders communication requirements	2.1	Relevant OHS, operational and commercial requirements and practices of individual stakeholders are referenced and actioned in accordance with control centre guidelines and established procedures
	2.2	Work is monitored, performed and/or coordinated in accordance with applicable work schedules and to applicable stakeholder requirements
	2.3	Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.4	Remedial actions are identified and communicated to relevant stakeholders to overcome any shortfalls encountered in the work schedule according to requirements and established procedures
	2.5	Solutions to non-routine problems are identified and communicated using Essential Knowledge and Associated Skills according to requirements
	2.6	Ongoing monitoring of quality of the work are undertaken in accordance with requirements and established procedures to ensure that the stakeholder's agreed communication

ELEMENT	PERFORMANCE CRITERIA	
		requirements are adhered to.
	2.7	Communication with clients is conducted in a professional and courteous manner according to organisational requirements and to contractual agreements and statutory requirements
	2.8	Appropriate language and interpersonal skills are used to facilitate accurate and relevant exchange of information
	2.9	Enquiries outside area of responsibility/knowledge are referred to the nominated person for resolution
3 Complete procedures for communication and liaison with Gas Industry stakeholders	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements/established procedures
	3.3	Work site is confirmed safe and operational accordance with established procedures and status communicated to relevant stakeholders
	3.4	Relevant work permit(s) are signed off and relevant equipment and processes are returned to service and advised to stakeholders as required
	3.5	Notification of completion of works and tasks is communicated to relevant stakeholders as per applicable procedures
	3.6	All stakeholders and internal staff are notified of actions required at the completion of any works or tasks
	3.7	Any agreed outcomes are monitored where relevant communication to stakeholders carried out.
	3.8	Communication completion processes are performed in accordance with organisational procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices control centre communication with Gas Industry stakeholders.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G502B Control centre communication

G 3.7.2 Apply communication, negotiation and problem solving techniques

Evidence shall show an understanding of communication, negotiation and problem solving skills required in a Gas Industry environment, indicated by the following:

- monitor/introduce practices designed to improve performance
- use effective consultative processes
- communicate routine and non-routine information clearly to senior managers, peers and subordinates
- ability to liaise effectively with a range of clients
- clear and accurate observation and analytical skills
- negotiation and dispute resolution and problem solving.

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing

on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 1	Workplace Environment Context: Gas Industry production, transmission and distribution areas Location — control centres or places where communication processes occur Work including out-of-hours
B	All	Use of computer hardware, software such as email Work requests from other

		parties Relevant procedures for equipment use Perform work under or without supervision Work carried out in regular or specified timeframe
C	All	Documentation: Written requests and reports Organisational formatting reports Regulatory reporting formats
D	All	Locate, interpret and apply relevant information Analyse process functions and problems Apply relevant customer service policies and procedures Use appropriate workplace language and communication technologies and techniques Maintain relevant workplace records Demonstrate understanding of the essential knowledge and associated skills associated with this competency standard Demonstration of each element on several occasions
E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide

		appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in controlling centre communication with Gas Industry stakeholders.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners

to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to control centre communication with Gas Industry stakeholders.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Industry products and services

Authoritative sources

Product information

Stakeholders

Organisational requirements

Interpersonal skills

Nominated person(s)

Product and service issues

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Control centre.

UEGNSG503B Manage emergencies and critical incidents for gas infrastructure

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit deals with the skills and knowledge required to manage a critical incident for gas infrastructure. This unit refers to the management of incidents of a critical nature that may impact on the operational effectiveness of the plant or system, endanger human life or property, or have an adverse impact on the environment.

Application of the Unit

Application of the Unit **2)**

This Competency Standard Unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit do not require a licence to practice in the workplace. However, practice in this unit is subject to regulations directly related to Occupational Health and Safety and where applicable contracts of training such as New Apprenticeships and the like.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

UEGNSG203B Commission and decommission gas distribution pipelines

Or

UEGNSG304B Commission/decommission gas transmission pipelines

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan to undertake the management of critical incidents	1.1	Established procedures and contingency plans are known, understood and determined for dealing with critical incidents
	1.2	Work is analysed, prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures for identified hazards are prioritised, implemented and evaluated
	1.4	Relevant system constraints are communicated to relevant persons and identified for work sites as per established procedures
	1.5	Operational and commercial requirements are communicated to stakeholders as per established procedures
	1.6	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.7	Liaison and communication with authorised persons, authorities, clients and land-owners is performed and activities are coordinated to carry out work

ELEMENT	PERFORMANCE CRITERIA
2 Implement incident response strategies	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 Receive and record relevant incident information regarding the scope and severity of the incident according to established procedures
	2.3 Analyse, assess and take appropriate actions according to established procedures
	2.4 OHS risks and incidents are identified and action taken according to established procedures
	2.5 Establish appropriate communications with incident support services and relevant stakeholders according to established procedures
	2.6 Actions are taken to reduce the effect of the incident according to requirements and established procedures
	2.7 Continue to monitor and assess the incident for any changes and respond according as per established procedures
	2.8 Essential Knowledge and Associated Skills are applied in an agreed timeframe and to quality standards efficiently according to requirements and established procedures
3 Complete procedures for managing critical incidents	3.1 Work completion records, reports, de-briefings, documentation and information is confirmed, processed and the appropriate persons notified
	3.2 Review incident response procedures and develop recommendations for changes to established procedures as necessary

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for managing emergencies and critical incidents for gas infrastructure.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G503B Emergency management

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas

Industry

- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 4.1.1 Operate and supervise in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.10 Understanding security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security

- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.11 Follow emergency/incident control procedures

Evidence shall show an application of emergency/incident control procedures used for applicable gas infrastructure, indicated by the following:

- compliance with applicable enterprise emergency/incident control policies and procedures
- communication with relevant stakeholders
- application of relevant procedures

G 4.1.14 Understand and comply with environmental and cultural issues requirements

Evidence shall show an understanding of environmental and cultural issues required of Gas Industry supervisors and autonomous workers, indicated by the following:

- understanding relevant environmental legislation, regulations, advisory standards, codes of practice and their impact on gas industry pipelines and facilities
- demonstrate appropriate actions and behaviours when dealing with environmental and cultural issues
- understanding of the significance of cultural awareness and native title legislation, regulations, advisory standards, codes of practice and cultural customs and practices and their impact on Gas Industry pipelines and facilities.

G 4.1.17 Demonstrate knowledge of pipeline systems

Evidence shall show an understanding required at a Gas Industry supervisory level of general principles associated with pipelines and other gas infrastructure, indicated by the following:

- identification, control and management of relevant threats against pipeline infrastructure and facilities
- identification of pipeline locations
- application of guidelines for the use of excavation machinery near pipelines and infrastructure and damage
- operational specifications and safe working limitations of pipelines and infrastructure
- principles of cathodic protection and corrosion mitigation
- HB105 Guide to pipeline risk assessment in accordance with AS2885.1, AS2885 Part 3

- applicable pipeline legislation, regulations, advisory standards and codes of practice.

G 4.1.18 Apply problem solving techniques

Evidence shall show an understanding and application of problem solving techniques in a Gas Industry environment, indicated by the following:

- understanding and application of formal problem solving techniques
- understanding the nature of problems
- identifying, evaluating and selecting solutions
- evaluating the effectiveness of problem solving processes.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being

assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Evaluate, respond and report threats to pipeline systems operation Working knowledge of sections of the relevant Australian pipeline and associated standards and legislation Working knowledge of the station function including identification of abnormal conditions of stations and reporting Working knowledge of pipeline operational

		parameters Use relevant field permit to work systems Respond correctly to alarms Working knowledge of monitoring field work Communicate effectively in the workplace Operating communications equipment Interpret technical drawings and symbols Emergency Response procedures Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Apply planning skills Manage communication with the media
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a

workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in managing emergencies and critical incidents for gas infrastructure.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to compliance with the management of incidents of a critical nature that may impact on the operational effectiveness of the plant or system, endanger human life or property, or have an adverse impact on the environment.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Gas infrastructure

Records/reports (5)

Information systems

Maps and drawings

Established procedures

Areas of responsibility

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Control centre.

UEGNSG504B Monitoring and controlling field activities

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard covers the monitoring of permit to work requests, dispatching personnel, responding to alarms, travel and activity monitoring of field personnel, monitoring work activities of field personnel against work schedule, contingency skills, response to third party enquiries, out of hours pipeline notification, response to man down alarm, tracking of field personnel (remote area), monitoring activities on pipeline, monitoring availability of assets (maintain a log), monitor equipment status, coordinating field activities, controlling and authorising field works, preparing incident reports, controlling gas flow and quality, controlling pressure and temperature of gas.

Application of the Unit

Application of the Unit **2)**

This Competency Standard Unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit do not require a licence to practice in the workplace. However,

License to practice **3)**

practice in this unit is subject to regulations directly related to Occupational Health and Safety and where applicable contracts of training such as New Apprenticeships and the like.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

UEGNSG203B Commission and decommission gas distribution pipelines

Or

UEGNSG304B Commission/decommission gas transmission pipelines

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan for the monitoring and controlling of field activities	1.1	Work schedules, plans, requirements, established procedures detailed and analysed and if necessary and the extent of the preparation of the work determined for planning and coordination
	1.2	Shift hand-over detail is received and understood and confirmed according to established procedures
	1.3	Work is analysed, prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.4	Risk control measures for identified hazards are prioritised, implemented and evaluated against the work schedule
	1.5	Salient system constraints are communicated to relevant persons and identified for work sites as per established procedures
	1.6	Operational and commercial requirements are communicated to stakeholders as per established procedures
	1.7	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.8	Relevant work permits are secured to coordinate the performance of work according to

ELEMENT	PERFORMANCE CRITERIA	
		requirements and established procedures
	1.9	Liaison and communication with authorised persons, authorities, clients and land-owners is performed/actioned and activities are coordinated to carry out work
2 Undertake monitoring and controlling of field activities	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Work is performed and coordinated in accordance with a work schedule and established procedures
	2.3	OHS risks and incidents are identified and action taken according to established procedures
	2.4	Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and established procedures
	2.5	Essential Knowledge and Associated Skills are applied in an agreed timeframe and to quality standards efficiently according to requirements and established procedures
	2.6	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.7	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client/customer to community and industry standards
3 Complete procedures monitoring and controlling field activities	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies are reported and solutions identified in accordance with established procedures
	3.2	Relevant work permit(s) and field activities are signed off and the status of plant, equipment and personnel movements recorded and handover procedures are conducted as per established

ELEMENT	PERFORMANCE CRITERIA
	procedures
	3.3 Shift handover detail is relayed and confirmed according to established procedures
	3.4 Work completion records, reports, documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of monitoring and controlling field activities.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G504B Field activities

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures

- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 4.1.1 Operate and supervise in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment

- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points

- components of applicable natural gases including LPG
- standard gas conditions
- combustion
- venting and purging principles
- Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.10 Understand security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with

such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.11 Follow emergency/incident control procedures

Evidence shall show an application of emergency/incident control procedures used for applicable gas infrastructure, indicated by the following:

- compliance with applicable enterprise emergency/incident control policies and procedures
- communication with relevant stakeholders
- application of relevant procedures

G 4.1.14 Understand and comply with environmental and cultural issues requirements

Evidence shall show an understanding of environmental and cultural issues required of Gas Industry supervisors and autonomous workers, indicated by the following:

- understanding relevant environmental legislation, regulations, advisory standards, codes of practice and their impact on gas industry pipelines and facilities
- demonstrate appropriate actions and behaviours when dealing with environmental and cultural issues
- understanding of the significance of cultural awareness and native title legislation, regulations, advisory standards, codes of practice and cultural customs and practices and their impact on Gas Industry pipelines and facilities.

G 4.1.17 Demonstrate knowledge of pipeline systems

Evidence shall show an understanding required at a Gas Industry supervisory level of general principles associated with pipelines and other gas infrastructure, indicated by the following:

- identification, control and management of relevant threats against pipeline infrastructure and facilities
- identification of pipeline locations
- application of guidelines for the use of excavation

machinery near pipelines and infrastructure and damage
- operational specifications and safe working limitations of pipelines and infrastructure
- principles of cathodic protection and corrosion mitigation
- HB105 Guide to pipeline risk assessment in accordance with AS2885.1, AS2885 Part 3
- applicable pipeline legislation, regulations, advisory standards and codes of practice.

G 4.1.18 Apply problem solving techniques

Evidence shall show an understanding and application of problem solving techniques in a Gas Industry environment, indicated by the following:

- understanding and application of formal problem solving techniques
- understanding the nature of problems
- identifying, evaluating and selecting solutions
- evaluating the effectiveness of problem solving processes.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord

with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Evaluate, respond and report threats to pipeline systems operation Working knowledge of sections of the relevant Australian pipeline and associated standards Working knowledge of the station function including identification of abnormal conditions of stations and reporting Working knowledge of pipeline operational parameters

		Use relevant field permit to work systems Respond correctly to alarms Working knowledge of monitoring field work Communicate effectively in the workplace Operating communications equipment Interpret technical drawings and symbols Emergency Response procedures Responding to a Dial Before You Dig enquiry Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Apply planning skills
B	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed item

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in monitoring and controlling field activities.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to compliance with the monitoring of permit to work requests, dispatching personnel, responding to alarms, travel and activity monitoring of field personnel, monitoring work activities of field personnel against work schedule, contingency skills, response to third party enquiries, out of hours pipeline notification, response to man down alarm, tracking of field personnel (remote area), monitoring activities on pipeline, monitoring availability of assets (maintain a log), monitor equipment status, coordinating field activities, controlling and authorising field works, preparing incident reports, controlling gas flow and quality, controlling pressure and temperature of gas.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Areas to be monitored:

Areas to control:

Gas infrastructure:

Organisational requirements (4)

Records/reports (5)

Information systems

Maps and drawings

Established procedures

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Control centre.

UEGNSG505B Use control centre systems to monitor and control gas infrastructure

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This competency standard covers the use and operation of SCADA and other control centre information systems including outage management systems, alarm management systems, site security systems, communications systems, telemetry to effectively manage Gas Industry infrastructure.

Application of the Unit

Application of the Unit **2)**

This Competency Standard Unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit do not require a licence to practice in the workplace. However, practice in this unit is subject to regulations directly related to Occupational Health and Safety and where applicable contracts of training such as New Apprenticeships and the like.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

UEGNSG203B Commission and decommission gas distribution pipelines

Or

UEGNSG304B Commission/decommission gas transmission pipelines

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan for the use of control centre systems to monitor and control pipelines	1.1 Work schedules, plans, requirements and established procedures are detailed and, if necessary, analysed and the extent of the preparation of the work determined for planning and coordination
	1.2 Shift handover detail is received and understood and confirmed according to established procedures
	1.3 Work is analysed, prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.4 Risk control measures for identified hazards are prioritised, implemented and evaluated against the work schedule
	1.5 Relevant system constraints are communicated to relevant persons and identified for work sites as per established procedures
	1.6 Operational and commercial requirements are communicated to stakeholders as per established procedures
	1.7 OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.8 Liaison and communication with authorised persons, authorities, clients and land-owners is completed and activities coordinated to carry out work
2 Undertake monitoring and controlling of gas infrastructure	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 Work is performed and coordinated in accordance with a work schedule, established

ELEMENT	PERFORMANCE CRITERIA	
		procedures, operating conditions and nominations
	2.3	Respond to alarms and out of specification conditions in accordance with established procedures
	2.4	OHS risks and incidents are identified and action taken according to established procedures
	2.5	Actions are taken to overcome any shortfalls or abnormal events encountered in the operating conditions according to requirements and established procedures
	2.6	Essential Knowledge and Associated Skills are applied in an agreed timeframe and to quality standards efficiently according to requirements and established procedures
	2.7	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.8	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client/customer to community and industry standards
3 Complete procedures for monitoring and controlling gas infrastructure	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies are reported and solutions identified in accordance with established procedures
	3.2	Shift handover detail is relayed and confirmed according to established procedures
	3.3	Works completion records, reports, documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of using control centre systems to monitor and control gas infrastructure.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G505B Control gas infrastructure using control centre systems

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas

Industry

- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret workplace documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 4.1.1 Operate and supervise in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.
- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicate effectively in the Gas Industry at a supervisory

level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, : with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

G 4.1.4 Understand Gas Industry products, processes and characteristics

Evidence shall show a comprehensive understanding of Gas Industry products and characteristics, indicated by the following:

- understand the Gas Industry products and the characteristics and tolerances of the product including:
  - principles of applicable gas laws
- gas pressure
- gas temperature
- compressibility
  - relative density – specific gravity
  - hydrocarbon and water dew points
  - components of applicable natural gases including LPG
  - standard gas conditions
  - combustion
  - venting and purging principles
  - Effects of temperature and pressure on infrastructure

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:

- Process and Instrumentation Diagrams (PID)
- Facility and pipeline construction and as-built drawings
- Geographical Information System (GIS) drawings and data
- Electrical drawings
- Survey maps
- Pipeline route maps and alignment sheets

G 4.1.7 Create Gas Industry reports and documentation

Evidence shall show an understanding and application of completing and interpreting enterprise-specific supervisory level Gas Industry reports including ,but not limited to:

- periodic operational reports
- budget reports and summaries
- regulatory reporting requirements

G 4.1.8 Use a personal computer

Evidence shall demonstrate requirements to use personal computer and undertake fundamental tasks, indicated by the following:

- send, answer and manage emails
- access the Internet for research purposes
- write documents using a word processing program
- develop a basic spreadsheet using a spreadsheet program
- apply formatting including cutting and pasting across a variety of computer applications (eg from excel to word)

G 4.1.10 Understand security breach procedures

Evidence shall show an understanding required to identify security breaches and the required action in dealing with such breaches, indicated by the following as applicable:

- identification of different types of security incidents including but not limited to:
  - physical security breaches at gas infrastructure
  - threat assessment and management
  - confidential information security
- communication with applicable emergency service and regulatory organisations
- compliance with applicable enterprise security policies and procedures

G 4.1.11 Follow emergency/incident control procedures

Evidence shall show an application of emergency/incident

control procedures used for applicable gas infrastructure, indicated by the following:

- compliance with applicable enterprise emergency/incident control policies and procedures
- communication with relevant stakeholders
- application of relevant procedures

G 4.1.14 Understand and comply with environmental and cultural issues requirements

Evidence shall show an understanding of environmental and cultural issues required of Gas Industry supervisors and autonomous workers, indicated by the following:

- understanding relevant environmental legislation, regulations, advisory standards, codes of practice and their impact on gas industry pipelines and facilities
- demonstrate appropriate actions and behaviours when dealing with environmental and cultural issues
- understanding of the significance of cultural awareness and native title legislation, regulations, advisory standards, codes of practice and cultural customs and practices and their impact on Gas Industry pipelines and facilities.

G 4.1.17 Demonstrate knowledge of pipeline systems

Evidence shall show an understanding required at a Gas Industry supervisory level of general principles associated with pipelines and other gas infrastructure, indicated by the following:

- identification, control and management of relevant threats against pipeline infrastructure and facilities
- identification of pipeline locations
- application of guidelines for the use of excavation machinery near pipelines and infrastructure and damage
- operational specifications and safe working limitations of pipelines and infrastructure
- principles of cathodic protection and corrosion mitigation
- HB105 Guide to pipeline risk assessment in accordance with AS2885.1, AS2885 Part 3
- applicable pipeline legislation, regulations, advisory standards and codes of practice.

G 4.1.18 Apply problem solving techniques

Evidence shall show an understanding and application of problem solving techniques in a Gas Industry environment, indicated by the following:

- understanding and application of formal problem solving techniques
- understanding the nature of problems
- identifying, evaluating and selecting solutions
- evaluating the effectiveness of problem solving processes.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing

on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Evaluate, respond and report threats to pipeline systems operation Working knowledge of sections of the relevant Australian pipeline and associated standards Working knowledge of the station function including identification of abnormal conditions of stations and reporting Working knowledge of pipeline operational parameters

		Respond correctly to alarms Operation of SCADA and other associated information systems Communicate effectively in the workplace Operating communications equipment Interpret technical drawings and symbols Emergency Response procedures Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Apply planning skills Fault and incident reporting and follow up process
B	At least 3	Operation and or monitoring of: • compressor stations • regulator stations • power generation stations • custody transfer stations • odourant stations • valves and actuators • heaters • meter stations • gas quality equipment • system fringe location • complex analysis modelling systems • corrosion protection

		systems • filtration systems • PIGs Telemetry and data communications systems
C	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in using control centre systems to monitor and control gas infrastructure.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to compliance with the following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Areas to be monitored:

Areas to control:

Gas infrastructure:

Organisational requirements (4)

Records/reports (5)

Information systems

Maps and drawings

Established procedures

Established procedures

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Control centre.

UEGNSG602B Load, discharging LPG by road tanker

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the loading and discharging of LPG by road tanker for the distribution of LPG. Included are appropriate persons; tools and equipment for LPG; loading and discharging of LPG; meeting Australian Dangerous Goods Code; regulations/statutes; standard operating procedures and guidelines followed for emergency procedures; AS 1596 or its replacement applies.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare worksite for loading and discharging of tanker	1.1	Work instructions are received and confirmed
	1.2	Relevant requirements and established procedures are followed for the work to be performed and are discussed with all persons to establish and confirm the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with the loading and discharging of LPG by road tanker are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons
	1.7	Materials necessary to complete the work, including equipment, tools and personal protective equipment are obtained and in working order according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at

ELEMENT	PERFORMANCE CRITERIA	
		the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident.
	1.9	Client issues are referred to appropriate persons in accordance with industry and community standards
	1.10	Site is prepared according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Load tanker and discharge LPG	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Tanker is positioned and operational knowledge for the loading and discharging of LPG by road tanker is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	The loading and discharging of LPG by road tanker is carried out in accordance with given instructions and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Customer requirements for non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Operational knowledge of the loading of tankers

ELEMENT	PERFORMANCE CRITERIA	
		and the discharge of LPG is applied
	2.8	Problems associated with the loading and discharging of LPG by road tanker are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.9	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Notify completion of work	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Records are maintained and work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for loading, discharging of LPG by road tanker.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G602B Load, discharge tanker

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged

and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA’s, JSA’s, JSEA’s, SWM’s etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks

- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2 1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics

methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance

- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.6.1 Occupational Health and Safety for working with LPG

Evidence shall show an understanding of the specific OHS and working procedures required to work with LPG gas, indicated by awareness of:

- OHS and environmental legislation
- Australian Dangerous Goods Code (ADG)
- inspection procedures
- properties of LPG
- operational capacity of safety equipment on tankers
- standard operating procedures for dealing with LPG
- position and manoeuvrability of tankers
- appropriate ability to read meters
- and understanding of manufacturer's specifications
- out of gas procedures.

G 2.6.3 Operate equipment within its limitations

Evidence shall show an understanding of the specific knowledge required to operate equipment within its

limitation in the LPG environment, indicated by the following:

- identify and understand the equipment used in the transporting of LPG
- use equipment for storing and transporting LPG.

G 2.6.4 Adhere to schedule

Evidence shall show an understanding of the specific knowledge required to operate equipment within its limitation in the LPG environment, indicated by the following:

- identify and understand the equipment used in the transporting of LPG
- use equipment for storing and transporting LPG.

G 2.6.5 Communication in an LPG environment

Evidence shall show an understanding of the specific communication knowledge required in an LPG environment, specifically:

- understanding customer requirements
- understanding company delivery procedures
- understanding company billing processes.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the

competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Pipes Hoses Valves and gauges Operate other associated equipment within its limitations and to requirements
B	At least 7	Take into account: Curfews Number of customers Volume of LPG to be delivered

		Duration of shift Distance to be travelled Equipment type Site access Weather conditions Delivery area is checked for ignition sources and other hazards Local environment
C	All	Standard Operating Procedures Australian Dangerous Goods Code Emergency procedures and response action AS1596 or replacement Working knowledge of AS 2865 State Regulations/Statutes/Permits
D	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Job safety analysis Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace

		Apply basic planning and job completion skills
E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in loading, discharging LPG by road tanker.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to loading, discharging LPG by road tanker.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate persons (2)

Tools and equipment for LPG

Loading and discharging LPG

Standard operating procedures

Records/documentation (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG603B Load, unload and exchanging gas cylinders

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the loading, unloading and exchanging of approved gas cylinders as per legislative requirements as used for distribution. Included are persons; tools and equipment; materials used in loading and exchanging; for the discharging of LPG by road tanker for the distribution. Persons involved in this standard are site manager; clerical persons; supervisors; other road tanker operators. Tools, of gas cylinders; appropriate delivery area at a terminal or customer location.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where the distribution of liquefied petroleum gas occurs.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government

License to practice **3)**

legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare worksite for loading, unloading and exchanging of gas cylinders	1.1	Work instructions are received and confirmed with appropriate persons
	1.2	Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with the loading, unloading and exchanging of gas cylinders are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons where appropriate
	1.7	Resources including equipment, tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at

ELEMENT	PERFORMANCE CRITERIA	
		the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident.
	1.9	Client issues are referred to appropriate persons in accordance with industry standards
	1.10	Site is prepared according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Load/unload truck and exchanging cylinders	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces and aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for correct positioning of the truck, loading, unloading and exchanging of gas cylinders is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	The loading, unloading and exchanging of gas cylinders is carried out in accordance with given instructions and established procedures
	2.5	Cylinders are loaded and unloaded and potential hazards and safety risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Problems associated with the loading, unloading and exchanging of gas cylinders are dealt with using acquired known solutions and skills related

ELEMENT	PERFORMANCE CRITERIA	
		to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Notify completion of work	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Delivery documentation and work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for loading, unloading and exchanging gas cylinders.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G603 Load, discharge cylinder delivery vehicle B

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged

and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA’s, JSA’s, JSEA’s, SWM’s etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks

- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics

methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance

- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.6.1 Occupational Health and Safety for working with LPG

Evidence shall show an understanding of the specific OHS and working procedures required to work with LPG gas, indicated by awareness of:

- OHS and environmental legislation
- Australian Dangerous Goods Code (ADG)
- inspection procedures
- properties of LPG
- operational capacity of safety equipment on tankers
- standard operating procedures for dealing with LPG
- position and manoeuvrability of tankers
- appropriate ability to read meters
- and understanding of manufacturer's specifications
- out of gas procedures.

G 2.6.3 Operate equipment within its limitations

Evidence shall show an understanding of the specific knowledge required to operate equipment within its

limitation in the LPG environment, indicated by the following:

- identify and understand the equipment used in the transporting of LPG
- use equipment for storing and transporting LPG.

G 2.6.5 Communicating in an LPG environment

Evidence shall show an understanding of the specific communication knowledge required in an LPG environment, specifically:

- understanding customer requirements
- understanding company delivery procedures
- understanding company billing processes.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being

assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Cylinder trolley Hoses and fittings Tools and equipment Leak detection devices Truck tail gate loader Correct storage Tray gates and ropes
B	All	OHS procedures followed Australian Dangerous Goods Code Emergency procedures and

		response action State regulations/statutes and permits Working knowledge of AS 2865 Delivery area checked for ignition sources
C	All	Maintain a safe and clean workplace Work safely with hazardous materials and equipment Job safety analysis Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace Apply basic planning and job completion skills Operate equipment within its limitations including basic technology
D	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a

workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in loading, unloading and exchanging gas cylinders.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills in section 6.7 of this competency standard.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to loading, unloading and exchanging gas cylinders.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate Persons

Tools, Equipment and Materials

Records/Documentation

Delivery Area

Loading and Unloading of Cylinders

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG604B Fill gas cylinders

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the filling of gas cylinders for the distribution of LPG to customers. It includes persons; equipment; inspection and testing for correct date on cylinder; company's ownership; corrosion and impact damage; leaks; component and part damage; legislative and regulatory requirements for this standard as set out in AS 1596, AS 2030 and AS 3509 or its/their replacements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where the distribution of liquefied petroleum gas occurs.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for filling of cylinders	1.1	Work instructions are received and confirmed
	1.2	Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with the filling of gas cylinders are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons
	1.7	Resources including equipment, tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.8	Relevant responsibilities associated with First Aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to

ELEMENT	PERFORMANCE CRITERIA	
		ensure safety measures and followed in the instance of an incident.
	1.9	Client issues are referred to appropriate persons in accordance with industry and community standards
	1.10	Site is prepared according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Fill cylinders	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for the filling of gas cylinders is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	The filling of gas cylinders is carried out in accordance with given instructions and established procedures
	2.5	Cylinders with defects such as leaks, damage etc are identified, marked and quarantined and identified hazards and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Problems associated with the filling of gas cylinders are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established

ELEMENT	PERFORMANCE CRITERIA	
		procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Move and store cylinders safely	3.1	Cylinders are lifted and moved according to standard operating procedures against the work schedule and anomalies reported to authorised persons
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8)This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the filling of gas cylinders.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G604 Fill cylinders
B

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged

and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA’s, JSA’s, JSEA’s, SWM’s etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks

- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics

methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

- Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance

- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.6.1 Occupational Health and Safety for working with LPG

Evidence shall show an understanding of the specific OHS and working procedures required to work with LPG gas, indicated by awareness of:

- OHS and environmental legislation
- Australian Dangerous Goods Code (ADG)
- inspection procedures
- properties of LPG
- operational capacity of safety equipment on tankers
- standard operating procedures for dealing with LPG
- position and manoeuvrability of tankers
- appropriate ability to read meters
- and understanding of manufacturer's specifications
- out of gas procedures.

G 2.6.3 Operate equipment within its limitations

Evidence shall show an understanding of the specific knowledge required to operate equipment within its

limitation in the LPG environment, indicated by the following:

- identify and understand the equipment used in the transporting of LPG
- use equipment for storing and transporting LPG.

G 2.6.6 Gas storage processes

Evidence shall show an understanding of the requirements to undertake tasks in the storage of LPG, indicated by the following:

- inspection procedures for cylinders and valves
- filling and storing of gas cylinders and valves.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 5	Cylinder trolleys Hose and fittings Leak detection devices Valves Gauges Spindles
B	All	Inspection tests to determine: Date on cylinder is within the required period Company's ownership Corrosion and impact

		damage Correct storage Valve threads are clean and in good condition Safety relief valve is capped and free from obstruction
C	All	Requirements from: State regulations/statutes Aust Dangerous Goods Code AS1596 or replacement AS2030 or replacement AS3509 or replacement AS 2865 Emergency procedures and response action
D	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Job safety analysis Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace Apply basic planning and job completion skills Operate equipment within its limitations

		Basic industry technology
E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in filling gas cylinders.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working

practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to filling gas cylinders.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate Persons

Equipment (2)

Inspection Checks

Legislative Requirements (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG605B Refurbish gas cylinders

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the inspection and refurbishing of approved gas cylinders as per legislative requirements. It includes persons; materials; tools and equipment; inspection checks; damage to cylinders; testing and refurbishment; legislative requirements and standards.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where the distribution of liquefied petroleum gas occurs.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for refurbishment of gas cylinders	1.1 Work instructions are received and confirmed
	1.2 Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3 OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4 Appropriate persons are consulted to ensure the work is coordinated effectively and suggestions to assist with the refurbishing of gas cylinders are made to others involved in the work
	1.5 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6 Scope of responsibility under the relevant work permit, where required, are received and confirmed according to requirements and established procedures with relevant persons
	1.7 Materials, tools and personal protective equipment required for the job are obtained and in working order according to established procedures
	1.8 Relevant responsibilities associated with First Aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident.
	1.9 Client issues are referred to appropriate persons in accordance with industry and community standards

ELEMENT	PERFORMANCE CRITERIA	
	1.10	Site is prepared according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Inspect and refurbish cylinders	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for the refurbishing of gas cylinders is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	The refurbishing of gas cylinders is carried out in accordance with given instructions and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Cylinders that are damaged or do not comply to standards are coded and condemned according to established procedures
	2.7	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.8	Problems associated with the refurbishing of gas cylinders are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.9	Ongoing checks of quality of the work are undertaken in accordance with given instructions

ELEMENT	PERFORMANCE CRITERIA	
		and established procedures
3 Inspect and notify completion of work	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Inspection results and completion processes are performed according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the filling of gas cylinders.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G605 Refurbish cylinders B

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements

- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6
- Work safely with hazardous materials and equipment
- Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:
- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)

- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for

a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to

complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry

workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures

- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.6.1 Occupational Health and Safety for working with LPG

Evidence shall show an understanding of the specific OHS and working procedures required to work with LPG gas, indicated by awareness of:

- OHS and environmental legislation
- Australian Dangerous Goods Code (ADG)
- inspection procedures
- properties of LPG
- operational capacity of safety equipment on tankers
- standard operating procedures for dealing with LPG
- position and manoeuvrability of tankers
- appropriate ability to read meters
- and understanding of manufacturer's specifications
- out of gas procedures.

G 2.6.2 Diagnose and rectify faults for LPG

Evidence shall show an understanding of the specific knowledge required for the diagnosing and rectifying of faults that occur in the LPG environment, indicated by the following:

- understand the equipment used for fault finding in LPG
- check for fault finding using the correct equipment
- identify what are faults and repair faults

G 2.6.6 Gas storage processes

Evidence shall show an understanding of the requirements to undertake tasks in the storage of LPG, indicated by the following:

- inspection procedures for cylinders and valves
- filling and storing of gas cylinders and valves.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered

will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Liquid withdrawal valves Vapour service valves Relief valves Contents gauges In situ fill valves Multiport valves Sullage tubes
B	And at least 4 Must do*	Painting Cleaning Refurbishing* Correct storage*

		Testing of equipment*
C	All	Inspection checks are made: To determine test date on cylinder is within required period Damage to cylinders Organisation's ownership Corrosion and impact damage Valve threads are clean and in good condition Safety relief valve is capped and free from obstruction Internal deposits Unacceptable paintwork Fire/heat damage Valve to cylinder connection leak
D	All	Standard operation procedures Emergency procedures and response action State regulations/statutes and permits
E	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment

		Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace Apply basic planning skills Diagnose and rectify faults for LPG Gas storage processes
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in refurbishing gas cylinders.

Assessment of this competency must also be undertaken in either

an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to refurbishing gas cylinders.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate Persons

Materials (2)

Tools and Equipment (2)

Inspection Checks

Damage to Cylinders

Testing

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG606B Monitor and control the transfer of LPG

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the safe transfer of liquefied petroleum gas by pipelines and hoses between storage and transport facilities. The competency standard refers to the relevant equipment; transfer of LPG; relevant emergency response procedures and relevant documentation to be developed.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where liquefied petroleum gas is transported.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for transfer of LPG	1.1 Availability of equipment is determined against work schedule(s) and established procedures and material lists are received, analysed and confirmed if necessary by site inspection
	1.2 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3 OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for monitoring and controlling the transfer of LPG are obtained and confirmed for the purposes of the work performed and communicated
	1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5 Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6 Equipment is checked and relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7 Pipelines and hoses are connected and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8 Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10 Site is prepared and valves are operated

ELEMENT	PERFORMANCE CRITERIA	
		according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Transfer of LPG	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces and/or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills for the monitoring and control of the transfer of LPG is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	The monitoring and transfer of LPG is carried out in accordance with the work schedule and to established procedures
	2.5	Transfer equipment is operated and identified hazards, OHS risks and control measures are monitored and preventative action taken in accordance with requirements and established procedures
	2.6	Pressure limits and liquid levels are monitored and unplanned events in the monitoring and control transfer of LPG are undertaken with the scope of established procedures
	2.7	Emergency response is selected and applied and known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are

ELEMENT	PERFORMANCE CRITERIA	
		undertaken in accordance with given instructions and established procedures
3 Complete shutdown process	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Emergency shutdown procedures are applied in the event of serious equipment failure or operational parameters being exceeded in accordance with standard operating procedures
	3.7	Work completion records, reports as installed drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for monitoring and controlling the transfer of LPG.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G606 Transfer LPG B

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.2 Understanding the correct use of plant and equipment in an LPG environment

Evidence shall show an understanding of the requirements to correctly use plant and equipment in an LPG environment, indicated by the following:

- operate transfer equipment including compressors or pumps
- transfer methods for pipes and hoses
- selection, testing and set up processes for transfer equipment
- making analytical judgements for appropriate adjustments to plant and equipment
- awareness of test equipment and its uses
- operation, testing and inspecting equipment that includes pressure vessels and associated fitting
- understanding manufacturer's specifications to make adjustments to parts where appropriate
- understanding of how to select appropriate equipment for tasks associated with LPG

- operating correctly gas analysis equipment
- operating correctly gas alarm and communication equipment.

G 3.6.3 Static electricity

Evidence shall show an understanding of the requirements to deal with situations where static electricity is present in an LPG environment, indicated by the following:

- understanding properties of static electricity and how to mange it in an LPG environment.

G 3.6.4 LPG communication including the recording of LPG information

Evidence shall show an understanding of the requirements to communicate and record information in an LPG environment, indicated by the following:

- accurately recording LPG information
- recording and reporting corrective actions in an LPG environment
- identifying and reporting any problems associated with transfer processes and procedures
- communicating in an LPG environment
- understanding of permit to work systems for an LPG environment.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the

normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 4	Pumps and compressors Pipes Hoses Valves Gauges Tank connections and fittings Articulated arms earthing clamps and connections
B	At least 3	Transfer of LPG undertaken by: Tank to tanker

		Ship to storage terminal Tanker to tank Tank to tank
C	At least 3	Documentation: OHS, environmental and associated legislative requirements Australian Dangerous Goods Codes Manufacturer's specifications Australian Standards Trucks, rail or ships may be used to unload tankers
D	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in monitoring and controlling the transfer of LPG.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills in section 6.7 of this competency standard.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B Carry out work activities in a utilities industry

	work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the monitoring and control of the transfer of LPG.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Equipment (3)

Transfer of LPG

Transfer equipment (3)

Emergency response

Documentation (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG607B Process LPG

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the processing of liquefied petroleum gas including the manufacture of TLGP, LPG and blending/mixing odourising LPG. The competency standard also refers to the relevant equipment; processing of LPG; process monitoring; relevant emergency response and completion of relevant documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where liquefied petroleum gas is transported.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to process LPG	1.1	Pipelines and hoses are connected in accordance with manufacturer's specifications and standard operating procedures
	1.2	Appropriate valves are operated in the correct sequence against relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for processing of LPG are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and

ELEMENT	PERFORMANCE CRITERIA	
		confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication with authorised persons, authorities, clients and land owners is completed so that work can be carried out where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Process LPG	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills for the processing of LPG is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Adjustment and monitoring of controls and the processing of LPG is carried out in accordance with the work schedule and to requirements and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.6	Emergency response is selected and unplanned events in the processing of LPG are undertaken with the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Shutdown equipment	3.1	Work completion is notified and work undertaken is checked against work schedules for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and/or injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Shutdown is completed in accordance with standard operating procedures and operating conditions
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Work completion is notified and relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Work completion records, reports and information is finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit

Evidence shall show that knowledge has been acquired of safe working practices for the processing of LPG.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G607B Process gaseous fuel

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.2 Understanding the correct use of plant and equipment in an LPG environment

Evidence shall show an understanding of the requirements to correctly use plant and equipment in an LPG environment, indicated by the following:

- operate transfer equipment including compressors or pumps
- transfer methods for pipes and hoses
- selection, testing and set up processes for transfer equipment
- making analytical judgements for appropriate adjustments to plant and equipment
- awareness of test equipment and its uses
- operation, testing and inspecting equipment that includes pressure vessels and associated fitting
- understanding manufacturer's specifications to make adjustments to parts where appropriate
- understanding of how to select appropriate equipment for tasks associated with LPG

- operating correctly gas analysis equipment
- operating correctly gas alarm and communication equipment.

G 3.6.4 LPG communication including the recording of LPG information

Evidence shall show an understanding of the requirements to communicate and record information in an LPG environment, indicated by the following:

- accurately recording LPG information
- recording and reporting corrective actions in an LPG environment
- identifying and reporting any problems associated with transfer processes and procedures
- communicating in an LPG environment
- understanding of permit to work systems for an LPG environment.

G 3.6.5 The LPG production process

Evidence shall show an understanding of the requirements to work in the LPG production process, indicated by the following:

- understanding of the appropriate processing, handling and storage operations for LPG
- understanding how to mix/blend the properties of LPG.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for

apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Pumps Valves Vessels Control and monitoring equipment Mixing/sampling equipment
B	At least 1	Processing LPG: Blending/mixing LPG Manufacturing TLGP Odourising LPG

C	At least 4	Process monitoring includes checks for: Stock levels Pressures Water sprays Security Gas heating valves Shutdown system Odourant dosing levels
D	All	Emergency Response: Gas leaks and fire Equipment failure Hazards and incidents
E	All	Documentation: OHS, environmental and associated legislative requirements Aust Dangerous Goods Code Manufacturer's specifications Australian Standards
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a

workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in processing LPG.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to processing LPG.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Equipment (3)

Processing LPG

Process monitoring

Emergency response

Documentation (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG608B Perform minor maintenance on gas processing/storage facilities and equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the performing of minor maintenance on liquefied petroleum gas processing facilities and equipment. The competency standard also refers to pressure vessels and fittings; types of variations or irregularities; appropriate parts; types of adjustments; relevant documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare and plan for maintenance activities	1.1	All necessary and appropriate facilities, tools, test and measurement instruments, materials and components to allow the completion of the work are selected against the work schedule(s), including drawings, plans, requirements and established procedures
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures related to performing minor maintenance on gas processing and storage facilities and equipment are obtained and confirmed
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	The facilities and equipment is made safe by ensuring it is safely isolated, depressurised, purged, tagged and locked out before allowing any repair or maintenance work to be undertaken and the relevant work permits are obtained to access and perform work according to requirements and established procedures
	1.7	Resources including appropriately licensed

ELEMENT	PERFORMANCE CRITERIA	
		persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication with authorised persons, authorities, clients and land owners is completed so that work can be carried out where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Fault-finding and troubleshooting techniques are applied to operational systems in order to identify any repairs or maintenance which may need to be undertaken
	1.13	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Perform minor maintenance on gas processing/storage facilities	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills for the performing of minor maintenance on gas processing and storage facilities and equipment

ELEMENT	PERFORMANCE CRITERIA	
		is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Adjustments to calibration and test equipment and devices are made to ensure equipment and devices operate within specific ranges and to maintain correct flow parameters to ensure gas availability
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Unplanned events in performing minor maintenance on gas processing/storage facilities and equipment are undertaken with the scope of established procedures
	2.7	Parts are replaced and known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Maintenance is performed and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Record and report results	3.1	Maintenance results are documented and work undertaken is checked against work schedules for conformance with requirements and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA
	3.5 Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6 Work completion records, reports and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for to performing minor maintenance on gas processing/storage facilities and equipment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G608B Storage facility and equipment minor maintenance

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.2 Understanding the correct use of plant and equipment in an LPG environment

Evidence shall show an understanding of the requirements to correctly use plant and equipment in an LPG environment, indicated by the following:

- operate transfer equipment including compressors or pumps
- transfer methods for pipes and hoses

- selection, testing and set up processes for transfer equipment
- making analytical judgements for appropriate adjustments to plant and equipment
- awareness of test equipment and its uses
- operation, testing and inspecting equipment that includes pressure vessels and associated fitting
- understanding manufacturer's specifications to make adjustments to parts where appropriate
- understanding of how to select appropriate equipment for tasks associated with LPG
- operating correctly gas analysis equipment
- operating correctly gas alarm and communication equipment.

G 3.6.4 LPG communication including the recording of LPG information

Evidence shall show an understanding of the requirements to communicate and record information in an LPG environment, indicated by the following:

- accurately recording LPG information
- recording and reporting corrective actions in an LPG environment
- identifying and reporting any problems associated with transfer processes and procedures
- communicating in an LPG environment
- understanding of permit to work systems for an LPG environment.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that

can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also

comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 7	Pressure vessels and fittings: Pressure vessel Vapourisers Earth connections Relief valves System(s) isolation Emergency shut-down valving (eg ISC valves) Manual shut-down valving Pipe work

		Vessel footings Regulators Hoses and couplings Pumps Compressors
B	At least 3	Types of irregularities may include: Corrosion Impact damage Point deterioration Leakage Non-operability of shutdown systems Equipment out of calibration
C	At least 6	Appropriate parts to be replaced: Excess flow valves Relief valves Pressure regulators/springs Pump seals/compressor seals Pressure gauges Bypass valves Meters Solenoids Valves Break away couplings Meter heads
D	At least 2	Types of adjustments: Downstream pressure adjustment Storage pressure adjustment (vapouriser system only)

		Bypass pressure adjustment for pumps
E	All	Documentation: OHS, environmental and associated legislative requirement ADG Code Australian Standards Manufacturer's specifications Work permits
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in performing minor maintenance on gas

processing/storage facilities and equipment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to performing minor maintenance on gas processing/storage facilities and equipment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Pressure vessels and fittings

Types of variations or irregularities

Appropriate parts

Types of adjustments

Documents

Documentation (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG609B Coordinate repair of faults in gas processing/storage facilities and equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1)**

1.1) Descriptor

This Competency Standard Unit covers the coordinating the repair of faults, which may occur during the processing, and storing of liquefied petroleum gas. The competency standard also refers to liaising with the appropriate persons; utilising the necessary materials; identifying the types of faults and providing the relevant documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where liquefied petroleum gas is transported.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of

License to practice **3)**

operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare to coordinate repairs	1.1	Appropriate persons are consulted to ensure the work is coordinated effectively with others involved in the worksite against work schedule(s), including drawings, plans and established procedures
	1.2	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.3	OHS, environmental and sustainable energy policies and procedures, related to coordinating the repair of faults in gas processing/storage facilities and equipment, are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and

ELEMENT	PERFORMANCE CRITERIA	
		confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Coordinate repair of faults in gas processing/storage facilities and equipment	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills to coordinate repair of faults in gas processing/storage facilities and equipment to is applied ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Repair work and the replacement of faulty work equipment is monitored to ensure activities are carried out to standard operating procedures, permit to work, and minimal impact occurs on existing operations and environment
	2.5	Hazard warnings and safety signs are recognised

ELEMENT	PERFORMANCE CRITERIA	
		and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Unplanned events in the coordination and repair of faults in gas processing/storage facilities and equipment are undertaken with the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Recommission systems and equipment	3.1	Systems are monitored or activated to ensure they are operating both safely and effectively and permit to work is closed out and the system is restored to normal operation
	3.2	Accidents and injuries are reported in accordance with established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Repaired and installed equipment is brought back on line in accordance with standard operating procedures
	3.7	Work completion records, reports as installed and modified, drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for coordinating the repair of faults in gas processing/storage facilities and equipment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G609B Storage facility and equipment repair

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.2 Understanding the correct use of plant and equipment in an LPG environment

Evidence shall show an understanding of the requirements to correctly use plant and equipment in an LPG environment, indicated by the following:

- operate transfer equipment including compressors or pumps
- transfer methods for pipes and hoses
- selection, testing and set up processes for transfer equipment
- making analytical judgements for appropriate adjustments to plant and equipment
- awareness of test equipment and its uses
- operation, testing and inspecting equipment that includes pressure vessels and associated fitting
- understanding manufacturer's specifications to make adjustments to parts where appropriate

- understanding of how to select appropriate equipment for tasks associated with LPG
- operating correctly gas analysis equipment
- operating correctly gas alarm and communication equipment.

G 3.6.4 LPG communication including the recording of LPG information

Evidence shall show an understanding of the requirements to communicate and record information in an LPG environment, indicated by the following:

- accurately recording LPG information
- recording and reporting corrective actions in an LPG environment
- identifying and reporting any problems associated with transfer processes and procedures
- communicating in an LPG environment
- understanding of permit to work systems for an LPG environment.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 7	Gas detectors Purging gas Hand tools LPG hoses Flare Valves Compressor Vessels Pump Road tanker Control and

		instrumentation equipment
B	At least 7	Faults: Gas leak Electrical problems Over filled vessel Compressor failure Pump failure Out of current inspection status Gauge failure Hose rupture/leaks Instruments out of calibration Non-flow of LPG Cylinder scales out of calibration Meter out of calibration
C	All	Documentation: Item maintenance record Work permit Job card documentation to inform relevant authorities, company persons or manufacturer OHS, environmental and associated requirement documentation
D	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in coordinating repair of faults in gas processing/storage facilities and equipment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills in section 6.7 of this competency standard.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to coordinating the repair of faults in gas processing/storage facilities and equipment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate persons (3)Necessary materials

Types of faults

Documentation (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG610B Control storage of LPG in terminal

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the controlling of the storage of LPG in terminals. The competency standard refers to appropriate persons; the transfer of LPG; use of relevant equipment; application against relevant legislative requirements; monitoring and storage of facilities; relevant emergency response; relevant recording of documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where LPG is transported.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for the storage of LPG	1.1	Appropriate persons are consulted to ensure the work is coordinated effectively with others involved on the work site and the availability of equipment is determined
	1.2	Equipment is checked in accordance with standard operating procedures and relevant requirements
	1.3	OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for control storage of LPG in terminal are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and/or established procedures
	1.7	Appropriate valves are operated and other resources including appropriately persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in

ELEMENT	PERFORMANCE CRITERIA	
		working order
	1.8	Relevant persons at worksite are confirmed to be current in in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Control Storage of LPG	2.1	LPG is stored in a safe and efficient manner in accordance with standard operating procedures and the condition of LPG is controlled within specifications and in accordance with legislative requirements
	2.2	Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3	Essential Knowledge and Associated Skills for the control storage of LPG in terminal is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Controlling the storage of LPG in terminal is carried out in accordance with the work schedule and to established procedures
	2.5	Emergency response procedures and potential hazards, safety risks and control measures are monitored and preventative action taken and referred to appropriate authorities in accordance

ELEMENT	PERFORMANCE CRITERIA	
		with requirements and established procedures
	2.6	Abnormalities are reported and unplanned events in control storage of LPG in terminal are undertaken with the scope of established procedures
	2.7	Fault-finding and troubleshooting techniques are applied to operational systems and equipment in order to identify any repairs or maintenance which may need to be undertaken
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Record/report storage activities	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.6	Work completion records, reports as installed and modified, drawings and documentation and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the controlling the storage of LPG in a terminal.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G610B Gaseous fuel terminal storage

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.2 Understanding the correct use of plant and equipment in an LPG environment

Evidence shall show an understanding of the requirements to correctly use plant and equipment in an LPG environment, indicated by the following:

- operate transfer equipment including compressors or pumps
- transfer methods for pipes and hoses
- selection, testing and set up processes for transfer equipment
- making analytical judgements for appropriate adjustments to plant and equipment
- awareness of test equipment and its uses
- operation, testing and inspecting equipment that includes pressure vessels and associated fitting
- understanding manufacturer's specifications to make adjustments to parts where appropriate
- understanding of how to select appropriate equipment for tasks associated with LPG

- operating correctly gas analysis equipment
- operating correctly gas alarm and communication equipment.

G 3.6.4 LPG communication including the recording of LPG information

Evidence shall show an understanding of the requirements to communicate and record information in an LPG environment, indicated by the following:

- accurately recording LPG information
- recording and reporting corrective actions in an LPG environment
- identifying and reporting any problems associated with transfer processes and procedures
- communicating in an LPG environment
- understanding of permit to work systems for an LPG environment.

G 3.6.5 The LPG production process

Evidence shall show an understanding of the requirements to work in the LPG production process, indicated by the following:

- understanding of the appropriate processing, handling and storage operations for LPG
- understanding how to mix/blend the properties of LPG.

G 3.6.6 Technical drawings

Evidence shall show an understanding of the requirements to understand technical drawings for the LPG environment, indicated by the following:

- understanding and interpreting technical drawings.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	At least 3	Pumps and compressors Valves Vessels Control and monitoring equipment Mixing equipment Sampling equipment
B	All	AS1596 or its replacement
C	At least 5	Monitoring of storage facilities includes: Pressure Temperature Levels Corrosion Gas leaks Stock levels Security Water sprays Shutdown systems
D	All	Emergency Responses include: Gas leaks and fire Equipment failure Hazards and incidents
E	All	Documentation includes: Maintenance records ADG Code OHS, environmental and associated legislative requirements
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and

		associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in controlling storage of LPG in terminal.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:
Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all

necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to controlling storage of LPG in terminal.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate persons (3)

LPG transfer

Equipment (3)

Legislative requirements (3)

Monitoring of storage facilities (3)

Emergency responses

Documents

Documentation (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG

UEGNSG611B Control LPG storage/processing operations

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the control of LPG storage/processing operations. The competency standard refers to utilisation of resources; operational; monitoring; referring to the appropriate persons; identifying types of equipment and faults and developing the required reports.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any work site where liquefied petroleum gas operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan control of operations	1.1 Work schedules, including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	1.2 Work is prioritised, processing priorities are determined and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3 Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.4 OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.5 Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.6 Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order
	1.7 Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.8 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.9 Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and

ELEMENT	PERFORMANCE CRITERIA	
		authorised where applicable in accordance with establish procedures
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Control operations	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	First Aid and other related work procedures such as systems isolation are performed according to requirements and established procedures
	2.3	Information concerning the operation of the storage or processing system is monitored and conveyed to relevant persons and other work areas to ensure safe and efficient system
	2.4	Work is performed and coordinated in accordance with a work schedule and to requirements
	2.5	Alarm codes are correctly interpreted and acknowledged and other hazards, OHS risks and control measures are monitored and preventative action taken and appropriate authorities consulted, where necessary, in accordance with requirements and established procedures
	2.6	Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and/or established procedures
	2.7	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.8	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.9	Ongoing checks of quality of the work are undertaken in accordance with requirements and

ELEMENT	PERFORMANCE CRITERIA	
		established procedures to ensure a quality outcome is achieved for the client/customer to community and industry standards
3 Shut down operations	3.1	Work undertaken is checked against works schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Emergency shutdown procedures are applied in the event of serious equipment failure or operational parameters being exceeded
	3.4	Relevant work permit(s) are signed off and system is returned to service and advice is given to clients in accordance with requirements
	3.5	Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices, Controlling LPG Storage/Processing Operations.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G611B Gaseous fuel storage

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.2 understanding the correct use of plant and equipment in an LPG environment

Evidence shall show an understanding of the requirements to correctly use plant and equipment in an LPG environment, indicated by the following:

- operate transfer equipment including compressors or pumps
- transfer methods for pipes and hoses
- selection, testing and set up processes for transfer equipment
- making analytical judgements for appropriate adjustments to plant and equipment
- awareness of test equipment and its uses
- operation, testing and inspecting equipment that includes pressure vessels and associated fitting
- understanding manufacturer's specifications to make adjustments to parts where appropriate
- understanding of how to select appropriate equipment for tasks associated with LPG
- operating correctly gas analysis equipment
- operating correctly gas alarm and communication equipment.

G 3.6.3 Static electricity

Evidence shall show an understanding of the requirements to deal with situations where static electricity is present in an LPG environment, indicated by the following:

- understanding properties of static electricity and how to mange it in an LPG environment.

G 3.6.4 LPG communication including the recording of LPG information

Evidence shall show an understanding of the requirements to communicate and record information in an LPG environment, indicated by the following:

- accurately recording LPG information
- recording and reporting corrective actions in an LPG

environment
- identifying and reporting any problems associated with transfer processes and procedures
- communicating in an LPG environment
- understanding of permit to work systems for an LPG environment.

G 3.6.5 The LPG production process

Evidence shall show an understanding of the requirements to work in the LPG production process, indicated by the following:

- understanding of the appropriate processing, handling and storage operations for LPG
- understanding how to mix/blend the properties of LPG.

G 3.6.6 Technical drawings

Evidence shall show an understanding of the requirements to understand technical drawings for the LPG environment, indicated by the following:

- understanding and interpreting technical drawings.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord

with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 5	Resources required: Pumps and compressors Valves Vessels Control and monitoring equipment Mixing equipment Sampling equipment Air equipment
B	At least 3	Unexpected events: Gas leaks and fire

		Equipment failure LPG supply levels Electricity supply fires
C	At least 4	Monitoring of storage/processing facilities: Monitoring pressure Temperature Levels Corrosion Gas leaks Stock levels Security
D	At least 5	Equipment faults: Electrical problems Over filled vessel Compressor failure Pump failure Out of current inspection status Gauge failure Hose rupture/leaks Instruments out of calibration Non-flow of LPG
E	All	Reports: Routine inspections (daily readings, monthly checks) Scheduled maintenance activities Mandatory or statutory inspections Hazard and incident reports
F	All	Working safely in an LPG

		environment Correct use of plant and equipment in an LPG environment Knowledge of the effects/potential effects of static electricity Recording information
G	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in controlling LPG storage/processing operations.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the control LPG storage/processing operations.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Resources

Operational

Monitoring

Relevant persons

Types of equipment faults

Reports

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG612B Supervise technical operations for liquefied petroleum gas storage and processing

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the technical supervision of liquefied petroleum gas storage, processing and maintenance operations. The competency standard refers to Resources; Activities; Appropriate Persons; Relevant Persons; Monitoring; Operational Requirements; Effective Communication; Types of Gas System Faults; Relevant Documentation; Legislative Requirements; Records and reports

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any work site where liquefied petroleum gas operations occur.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of

License to practice **3)**

operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare to supervise operations	1.1	Operational area is checked for hazards and the works schedule(s), including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	1.2	Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures
	1.3	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and or established procedures
	1.7	Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed

ELEMENT	PERFORMANCE CRITERIA	
		in a safe and technical working order
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.9	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with established procedures
	1.11	Status of the system is sought through communication with pipeline control centre in accordance with established procedures
	1.12	Expenditure is forecast and managed to keep within operational budget constraints
2 Supervise operations	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Appropriate persons are inducted according to company standard operating procedures
	2.3	First Aid and other related work procedures are performed according to requirements and established procedures
	2.4	Lifting, climbing, working in confined spaces, excavations, trenches, and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.5	Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.6	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for

ELEMENT	PERFORMANCE CRITERIA	
		directions according to established procedures
	2.7	Operating conditions of equipment are monitored through gauge levels, temperatures, flow indicators in order to determine performance of equipment and system
	2.8	Information concerning the operation of the pipeline system is monitored and conveyed to relevant persons to ensure safe and efficient operation of the pipeline system
	2.9	Fault finding and troubleshooting techniques are applied to operational systems and equipment to identify any repairs or maintenance that is required according to requirements and established procedures
	2.10	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.11	Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.12	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client/customer to a community and industry standards
3 Finalise completion details	3.1	Work undertaken is checked against works schedule for conformance with requirements and anomalies which are reported and solutions identified in accordance with established procedures
	3.2	Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3	Work site is rehabilitated/cleaned up and confirmed safe and in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA
	3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5 Relevant work permit(s) are signed off in accordance with requirements
	3.6 Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the supervising of technical operations for liquefied petroleum gas storage and processing.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G612B Gaseous fuel storage technical operations

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.6 Technical drawings

Evidence shall show an understanding of the requirements to

understand technical drawings for the LPG environment, indicated by the following:

- understanding and interpreting technical drawings.

G 5.6.1 Supervision of LPG processes

Evidence shall show an understanding of the requirements to supervise LPG staff, activities and procedures, indicated by the following:

- effective communication including:
- Demonstration of an understanding and skill in appropriate workplace colleague and third-party communication
- Understanding relevant organisational and regulatory requirements in workplace communications
  - motives for communication
  - communication networks
  - communication types including:
- Oral – directly spoken
- Oral – telephone or radio
- Written – reports, memos etc
- Electronic – email, electronic files, video presentations etc
  - choosing the medium and the flow of a message
  - blocks to effective communication
- using emergency equipment including fire fighting equipment
  - dealing with emergencies
  - elements of an emergency plan
  - fire extinguishing system
- understanding industrial awards and employee entitlements
  - individual and collective bargaining agreements
  - awards and employee entitlements
- correct waste management procedures
  - organisational requirements for waste management
  - affects of not managing waste effectively
- coordinating the work of others
  - the importance of good management
  - what good managers do
  - the importance of leadership
  - effective leadership

- the importance of control
- control methods
- principles of effective control
- control systems and techniques

- applying permit to work system including permits and limitations
  - understanding applicable organisational permit to work systems
  - demonstrated application of an organisational permit to work system
- providing technical leadership and accurate instruction
- understanding organisational procedures for the testing, diagnosing and rectification of faults.

G 5.6.2 Assess and control odourant levels for LPG processing

Evidence shall show an understanding of the requirements to assess the correct odourant levels for the processing of LPG, indicated by the following:

- assessing correct odourant levels for processing LPG.
- Implication of incorrect odourant levels
- Correct odorant injection levels

G 5.6.3 Operate LPG plant and equipment

Evidence shall show an understanding of the requirements to undertake the operation of plant and equipment used in the LPG environment, indicated by the following:

- correct vessel inspecting, testing techniques and coating procedures to protect against corrosion
- liquid product transfer (fiscal and operational)
- monitor, identify and rectify any problems associated with storage processing (transfer processes and procedures)
- metering and calibration procedures
- operation of storage/processing facilities and equipment
- operation of pumps, compressors, valving, shutdown and deluge systems.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group	**The minimum number of items on which skill**	**Item List**

No	**is to be demonstrated**	
A	At least 5	Resources: Vessels Pumps Compressors Valves Product Control and monitoring equipment Mixing and sampling equipment Air equipment
B	At least 3	Activities: Product revival, processing and/or dispatch Rectification of gas system faults Scheduling of maintenance, repairs and/or modifications Commissioning of new plant and/or equipment Stock control
C	At least 5	Monitoring of storage/processing facilities: Pressure Temperature Volume Corrosion Liquid/vapour leaks Product levels Product levels Security
D	At least 3	Operational requirements:

		Product levels Product blending/mixing/odourising Manufacturers maintenance requirements Rectification of gas system faults
E	At least 4	Types of faults: Liquid/vapour leaks Electrical problems Mechanical failure Over filled vessel Out of current inspection status Gauge failure
F	All	Working safely in an LPG environment Interpreting technical drawings Determining odourant levels for LPG processing OHS and associated legislative requirements ADG Code
G	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in supervising technical operations for liquefied petroleum gas storage and processing.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units	**9.5)**

There are no recommended concurrent assessments with this unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to supervising technical operations for liquefied petroleum gas storage and processing.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Resources

Activities

Appropriate persons (5)

Relevant persons

Monitoring

Operational requirements (5)

Effective communication (5)

Types of gas system faults

Relevant documentation (5)

Legislative requirements (5)

Records/reports (5)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

LPG.

UEGNSG613A Assess the operational capability of gas safety equipment on a delivery vehicle

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the assessment of the gas and safety equipment on a delivery vehicle for the distribution of gaseous fuel. It includes assessing the equipment, identifying faults, using standard operating procedures, liaising with appropriate persons, conducting inspections and tests. delivery vehicle/vehicles as detailed in the National Road Transport competency standards TDTC407A and TDTC597A. Delivery vehicles include heavy rigid or heavy combination truck.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to work sites where the distribution of liquefied petroleum gas occurs.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government

License to practice **3)**

legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to assess gas and safety equipment on delivery vehicles in accordance with requirements and standard operating procedures	1.1 Work instructions are received and confirmed according to standard operating procedures
	1.2 Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3 OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4 Suggestions to assist with the assessing the operational capability of gas safety equipment on delivery vehicles are made to others involved in the work
	1.5 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6 Scope of responsibility under the relevant work permit is received and confirmed according to requirements and established procedures with relevant persons where applicable
	1.7 Resources including equipment and tools are visually inspected and personal protective

ELEMENT	PERFORMANCE CRITERIA	
		equipment required for the job are obtained and in working order according to established procedures
	1.8	All components of the delivery vehicle and associated equipment are checked and the relevant responsibilities associated with First Aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures.
	1.9	Client issues are referred to appropriate persons in accordance with industry community standards
	1.10	Inspection procedures are carried out according to manufacturer's specifications and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Identify and assess faults of gas and safety equipment on delivery vehicles	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Lifting, climbing, working in confined spaces and aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for the assessing of the operational capability of gas safety equipment on delivery vehicles is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Assessing the operational capability of gas safety equipment on delivery vehicles is carried out in accordance with requirements and given instructions and established procedures
	2.5	Hazard warnings and safety signs are recognised

ELEMENT	PERFORMANCE CRITERIA	
		and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Problems associated with the assessing of the operational capability of gas safety equipment on delivery vehicles are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Records are maintained and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete assessment and report results of inspection and testing of gas safety equipment on delivery vehicles	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Results of inspection and testing are accurately recorded and Appropriate persons are notified of work completion according to established procedures
	3.6	Clear reference is made to any items which may affect future operational outcomes and work

ELEMENT	PERFORMANCE CRITERIA
	completion records, report forms and data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for assessing the operational capability of gas safety equipment on delivery vehicles.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G613A Operational capability of delivery vehicles

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees,

including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry

- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA's, JSA's, JSEA's, SWM's etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites

- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress

- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment
-

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
    - Understanding and compliance with enterprise procedures for flora control

- erosion control
- fauna control
- the protection of indigenous and cultural heritage sites

- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance
- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents
-

NOTE: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.6.1 Occupational Health and Safety for working with gaseous fuel gas

Evidence shall show an understanding of the specific OHS and working procedures required to work with LPG gas, indicated by awareness of:

- OHS and environmental legislation
- Australian Dangerous Goods Code (ADG)
- inspection procedures
- properties of LPG
- operational capacity of safety equipment on tankers
- standard operating procedures for dealing with LPG

- position and manoeuvrability of tankers
- appropriate ability to read meters
- and understanding of manufacturer's specifications
- out of gas procedures.

G 2.6.2 Diagnose and rectify faults for gaseous fuel

Evidence shall show an understanding of the specific knowledge required for the diagnosing and rectifying of faults that occur in the LPG environment, indicated by the following:

- understand the equipment used for fault finding in LPG
- check for fault finding using the correct equipment
- identify what are faults and repair faults

G 2.6.3 Operate equipment within its limitations

Evidence shall show an understanding of the specific knowledge required to operate equipment within its limitation in the LPG environment, indicated by the following:

- identify and understand the equipment used in the transporting of LPG
- use equipment for storing and transporting LPG.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the

competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 6	Tanks, valves and fittings Seals and gaskets Pump and drive shaft Meters Emergency equipment Pipes Pneumatic/electronic control equipment Gauges Hoses and connections including hose protection systems

		Earthing straps Hydraulic equipment
B	At least 4	Water leaks Oil leaks Damaged hoses Gas/air leaks Valves not operating Electric control cable damage
C	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Working knowledge of AS 2865 Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace Apply basic planning skills Diagnose and rectify faults for gaseous fuel Operate equipment within its limitations
D	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above

		listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in assessing the operational capability of gas safety equipment on delivery vehicles.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to assessing the operational capability of gas safety equipment on delivery vehicles.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Equipment (2)

Faults

Standard operating procedures (2)

Appropriate persons (2)

Inspection and testing (2)

Delivery vehicles

Requirements

Established procedures

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Gaseous fuel.

UEGNSG701B Process meter reading information using appropriate technology

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the processing of meter reading information by using the appropriate technology for recording of information. The standard may include gas, water and electricity supply industries. Tools and equipment used for this competency standard include using hand held or wireless/remote recording equipment, computers/computer software, CD-ROMS, hard and floppy disks, drives and back up systems.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly

License to practice **3)**

related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Select and use technology to record information	1.1	Work instructions are received and confirmed
	1.2	Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with processing meter reading work are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons
	1.7	Resources including technical equipment and tools required for the job are obtained and in working order and information is recorded according to established procedures
	1.8	Relevant responsibilities associated with first aid and other related work safety procedures at the

ELEMENT	PERFORMANCE CRITERIA	
		worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident.
	1.9	Client issues are referred to appropriate persons in accordance with industry standards
	1.10	Site is prepared according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Process information	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Working in confined spaces and aloft, and use of equipment, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for carrying out processing meter readings work is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Data is stored, relevant technology and updated and retrieved in accordance with given instructions and established procedures using relevant technology
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures
	2.7	Relevant sources are referred to for problems associated with processing meter readings and

ELEMENT	PERFORMANCE CRITERIA	
		known solutions and skills related to routine procedures to ensure work instructions and established procedures are met Note: sources include manuals, training books, internet
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Maintain technology	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Minor maintenance of meter reading technology is applied in accordance with requirements to ensure working order of the meter reading technology
	3.5	Technology consumables are identified and any surplus resources and materials are, where appropriate, checked and returned to storage in accordance with established procedures
	3.6	Appropriate persons are notified of work completion according to established procedures
	3.7	Work completion records, faults to equipment are identified and reported accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G701B Meter reading technology

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged

and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA’s, JSA’s, JSEA’s, SWM’s etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:

- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work-site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 dentify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks
- Prioritise tasks

- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics

methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident compliance

- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment

intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Appropriate Persons: Site manager
B	All	Equipment: Hand held recording equipment Computers/computer software CD-ROMS Hard and floppy disks, drives and back up systems
C	All	Interpret maps, diagrams and workplace documents Work utilising relevant

		OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Apply basic planning skills
D	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific

resources for assessment, evidence should show demonstrated competency in processing meter reading information using appropriate technology.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to processing meter reading information using appropriate technology.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Services (2)

Appropriate persons (2)

Tools and equipment (2)

Legislative requirements (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Support services

UEGNSG702B Read and record meter readings

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the operations to plan, sequence, use and record utilities industries meter reading data. Resources used enable efficient planning and scheduling of routes that includes availability of competent meter readers, vehicle and appropriate meter reading equipment. Included also is scheduled requirements; sequencing a route for an individual; account information aspects; records relating to previous; methods used to record meter readings; damage or faults to meters; new and changed information.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not

License to practice **3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and record meter reading routine/sequence	1.1	Work instructions are received and confirmed and routes are mapped to correspond to schedule requirements
	1.2	Records relating to previous routes are confirmed and other established procedures are followed for the work to be performed against the work schedule
	1.3	OHS, environmental and sustainable energy policies and procedures to be followed for the work to be performed are received and confirmed
	1.4	Suggestions to assist with the reading and recording of meters are made to others involved in the work
	1.5	Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures
	1.6	Scope of responsibility under the relevant work permit are received and confirmed according to requirements and established procedures with relevant persons
	1.7	Resources including equipment, tools and route sequences are obtained and are checked for working order according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures and followed in the instance of an incident.
	1.9	Client issues are referred to appropriate persons in accordance with industry and community standards
	1.10	Records are maintained according to given instructions and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Carry out meter reading process	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	Working in confined spaces and aloft techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents
	2.3	Operational knowledge for the reading and recording of meter readings is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures
	2.4	Reading and recording of meter readings is carried out in accordance with given instructions and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Non-routine events are referred to the immediate authorised persons for directions according to established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Problems associated with establishing the work site are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete the reading and recording of meter readings process	3.1	Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures
	3.2	Accidents and incidents are actioned and reported to authorised persons in accordance with established procedures
	3.3	Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4	Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5	Appropriate persons are notified of work completion according to established procedures
	3.6	Work completion records, report forms and data sheets are completed accurately, with unusually high or low meter readings noted and new or changed information updated in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G702 Meter readings B

G 2.1.1 Work in the gas sector

Evidence shall show an understanding of how work is conducted in the Gas Industry, specifically:

- The Gas Industry in Australia
- Australian gas resources
- Types of gas and uses
- Combustion.

G 2.1.2 Identify roles of statutory authorities

Evidence shall show an understanding of the roles of statutory authorities (government agencies, both State and Federal) that operate in the Gas Industry, including identifying:

- Statutory bodies
- Roles of statutory bodies
- Employer and employee responsibilities to statutory bodies.

G 2.1.3 Identify employment roles and responsibilities

Evidence shall show an understanding of the roles of major groups in the Gas Industry, that is employers and employees, including:

- The role of the employer
- Industry associations
- Employer obligations to safety
- Identification of disadvantaged and minority groups in Australian society
- Employers obligations to persons from disadvantaged

and minority groups
- Employers obligations to occupational health and safety
- The role of commonwealth and state training regulatory authorities and industry skills councils and state training advisory bodies
- Roles and responsibilities of gas industry employees
- The employment contract
- Working to safety requirements
- Work according to lawful commands
- Belonging to employee organisations
- How to work with people from disadvantaged and minority groups
- Understanding the employees obligations to occupational health and safety
- Sources of support.

G 2.1.4 Apply relevant OHS regulations, policies and procedures

Evidence shall show an understanding of the basic workplace health and safety legislation and how this applies to individuals in a Gas Industry workplace, indicated by the following:

- Employer's responsibilities to relevant OHS legislation
- Employee's responsibilities to OHS legislation and organisation's policies and procedures
- OHS policies and procedures at the worksite.
- Australian Standards, guidelines and codes of practice

G 2.1.5 Work safely in the gas industry by reducing risk and using correct PPE

Evidence shall show an understanding of how to work safely in the gas industry indicated by the ability to:

- Correctly interpret and comply with Safety Signs including workplace Hazards, Warnings and PPE requirements
- Correctly interpret gas markers
- Identify the correct PPE required for work in the Gas Industry
- Locate and comply with procedures for correctly checking, maintaining and storing PPE
- Apply the process of Hazard identification, Risk assessment and Control
- Complete Risk Assessment forms such as Work Permits and JHA’s, JSA’s, JSEA’s, SWM’s etc
- Report workplace hazards

G 2.1.6 Work safely with hazardous materials and equipment

- Evidence shall show an understanding of what constitutes hazardous materials and the equipment and processes used to safely work with these indicated by the following:
- Identify hazardous materials and equipment
- Location and purpose of Material Safety Data Sheets (MSDS)
- Read, interpret and discuss MSDS
- Knowledge of methods for safe disposal of hazardous waste materials
- Read, interpret and discuss relevant manufacturer's specifications
- Use and dispose of hazardous materials and equipment safely
- Use of spill kits and PPE

G 2.1.7 Apply safe manual handling techniques in the workplace

Evidence shall show an understanding of manual handling and how to apply this knowledge to handling heavy and awkward objects in a Gas Industry workplace, specifically:

- Principles for managing manual handling
- Characteristics and types of safe manual handling
- Safe manual handling techniques
- Manual handling and risk management

G 2.1.8 Control traffic at the work-site

Evidence shall show knowledge and skills in coordinating traffic flow at a workplace where traffic control is required, that is, where work is conducted on or near a road, indicated by the following:

- Read and interpret relevant traffic authority regulations for traffic control at a worksite
- Identify signs and devices required to control pedestrians and traffic at a worksite depending on traffic flow volumes
- Apply techniques for controlling pedestrians and traffic at various worksites
- Use procedures for monitoring traffic controls
- Set up and monitor pedestrian and traffic controls

G 2.1.9 Respond to emergency and accident situations

Evidence shall show knowledge and skills in dealing with emergency or accident situations at a Gas Industry

workplace, indicated by the following:

- Situations of accidents and emergency
- Comply with procedures for accidents and incidents
- Correct use of emergency equipment and procedures for a fire
- Correct use of breathing apparatus
- Correct use of gas detectors/oxygen monitoring devices
- Correct use of emergency equipment and procedures for a gas leak or vapour emission
- Report emergencies and accidents

G 2.1.14 Read and interpret Gas Industry documents

Evidence shall show an ability to read and interpret Gas Industry documents indicated by the following:

- Understand and use signs, symbols terminology and legends as used in gas industry procedures and documents
- Identify, locate and implement gas industry standards, policies and procedures
- Interpret and read basic drawings and diagrams

G 2.1.15 Complete workplace forms, and reports

Evidence shall show an ability to complete routine Gas Industry forms, memos and reports either written or electronic, indicated by the following:

- Identify, locate, interpret and use workplace forms, and reports
- Enter the required information accurately on gas industry forms and reports

G 2.1.16 Identify requirements of work activity

Evidence shall show ability to:

- Clarify expected outcomes of a work activity in a Gas Industry workplace
- Receive, clarify and respond to verbal work instructions for work activity
- Interpret and discuss an organisation's policies, quality requirements and specifications for work activity

G 2.1.17 Apply basic planning skills

Evidence shall show a demonstrated ability to apply basic planning skills in a Gas Industry workplace, indicated by the following:

- Develop checklists of tasks

- Prioritise tasks
- Identify resources required to complete tasks safely and efficiently
- Identify resource or scheduling conflicts and apply solutions
- Develop time lines to complete tasks

G 2.1.18 Conduct tasks to complete work activities

Evidence shall show ability to organise the activities to complete a job in a Gas Industry workplace, indicated by the following:

- Locate and organise equipment, tools and machinery required to complete tasks safely and efficiently
- Complete tasks according to planned sequences and within appropriate timeframes
- Understand quality assurance and work according to established and standard operating procedures

G 2.1.19 Review work activities

Evidence shall show an ability to review work activities undertaken in a Gas Industry workplace, indicated by the following:

- Check work activities against a work plan
- Seek feedback on the outcome of work activities with appropriate persons
- Report outcomes of work activities in writing or orally according to enterprise procedures

G 2.1.20 Customer relations

Evidence shall show an understanding of the requirements for providing good customer relations to Gas Industry stakeholders, indicated by the following:

- Notify stakeholders of activities
- Communicate with stakeholders within scope of responsibilities
- Refer stakeholders to appropriate parties
- Demonstrate understanding of ring fencing requirements (if applicable)
- Keep the customer informed on job progress
- Provide good customer relations

G 2.1.21 Undertake problem solving

Evidence shall show an understanding of the requirements to undertake basic problem solving in a Gas Industry workplace, indicated by the following:

- Demonstrate problem solving and diagnostics methodology
- Identify possible solutions
- Recommend probable solutions and
- Apply basic problem solving techniques

G 2.1.22 Operate in confined spaces

Evidence shall show an understanding of the requirements to recognise and operate in confined spaces in a Gas Industry workplace, indicated by the following:

- Knowledge of the requirements of Legislation, Regulations, Australian Standards and enterprise specific procedures for safe working in confined spaces
- Ability to recognise what a confined space is and the entry safety requirements
- Ability to understand and comply with manufacturers' guidelines for the safe use of PPE used in confined spaces
- Understand how and when to use gas detectors for confined spaces entry
- Understand how and when to use breathing apparatus and rescue and recovery equipment

Note: A confined spaces entry ticket would satisfy and exceed the requirements of this EKAS clause

G 2.1.25 Protect the environment

Evidence shall show an understanding and ability to perform work in the gas industry in a manner that protects the environment indicated by the following:

- Understanding of the relevant Commonwealth/State/Territory environmental legislation, regulations and codes of practice
- Understanding of employee's and employer's responsibilities to relevant environmental legislation, regulations and codes
  - Understanding and compliance with enterprise procedures for flora control
  - erosion control
  - fauna control
  - the protection of indigenous and cultural heritage sites
- Understanding the role of regulatory bodies in monitoring environmental activities, risk and incident

compliance

- Understanding community expectations for protecting the environment
- Correct use of environment protection procedures, records, inspections and incident reporting
- Identifying environmental hazards
- Assessing environmental risks
- Implementing environmental control measures
- Ability to respond to workplace environmental incidents

Note: Environmental damage can be caused by chemicals, oil, water contamination, carcinogenic agents, gases, dusts, waste contamination and noise

G 2.1.26 Communicate in the workplace

Evidence shall show an understanding and ability to communicate effectively in a Gas Industry work team indicated by the following:

- Effective use oral and written communications methods to achieve work related outcomes and solutions.
- Effectively receive, interpret and respond to workplace information and instructions
- Effectively convey and report work related information to fellow workers and customers
- Interact with fellow workers in a socially and culturally appropriate manner

G 2.7.1 Reading maps/directories to determine routes

Evidence shall show an understanding of reading maps and directories for the location of utilities industry meters, indicated by the following:

- planning and determining routes
- locating meters on maps and directories
- documenting any hazards identified on the route.

G 2.7.2 Communication for reading utilities meters

Evidence shall show an understanding of communicating orally and in written format for reporting in the utilities industries meter reading environment, indicated by the following:

- liaising with relevant authorities
- communicating with colleagues
- reading and understanding documents including maps and reports.

G 2.7.3 Meter/reading meters

Evidence shall show an understanding of reading utilities industries meters, indicated by the following:

- understand the types of meters used for utilities industries meters
- record reading using hand held electronic recording device
- accurately record meter reading.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence

need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Methods used to record meter readings: Meter reading cards Meter reading sheets Electronic reading devices such as Portable Data Entry Terminal (PDET)
B	At least 2	Damage or faults to meters: Unreadable meters Incorrect meter locations Suspected tampering with the meter Suspected illegal

		connections
C	At least 3	New or changed information: Special customer requirements Additions of new meters Deletion of meter when necessary Changes to meter numbers Changes to property information Changes in location of meter
D	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Maintain a safe and clean workplace Apply safe manual handling techniques Communicate effectively in the workplace Read and interpret diagrams and drawings Apply basic planning skills
E	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in reading and recording meter readings.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the reading and recording of meter readings.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Resource requirements (2)

Schedule requirements (2)

Sequencing a route

Aspects to consider (2)

Records (2)

Methods (2)

Damage or faults (2)

New or changed information (2)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Support services

UEGNSG703B Investigate billing exceptions-conditions

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the investigating of exceptions to the billing process and the implementation of their solutions in a utilities industry environment. For this competency standard exceptions and conditions must be considered; relevant problems solved; investigation of billing exceptions occur; liaison with customers occur; and solutions developed to relevant problems.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice **3)**

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan for the investigation of billing exceptions/conditions	1.1	Account exceptions and conditions are correctly identified and comprehensively researched in a timely manner against work schedule(s) and established procedures and confirmed if necessary by site inspection
	1.2	Relevant requirements and established procedures for the work are communicated to all persons
	1.3	OHS, environmental and sustainable energy policies and procedures related to investigating billing exceptions/conditions are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for investigating billing exceptions/conditions are identified, scheduled and obtained and confirmed in

ELEMENT	PERFORMANCE CRITERIA	
		working order
	1.8	Liaison and communication with authorised persons, authorities, clients and land-owners is completed so that work can be carried out where necessary
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Carry out investigation of billing exceptions/conditions	2.1	Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.2	Dealings with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3	Application of Essential Knowledge and Associated Skills for carrying out investigation of billing exceptions/conditions to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Investigating billing exceptions/conditions is carried out in accordance with the work schedule and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Unplanned events in the carrying out of the investigation of billing exceptions/conditions are undertaken within the scope of established procedures
	2.7	Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills

ELEMENT	PERFORMANCE CRITERIA	
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Complete the investigation of billing exceptions/conditions	3.1	Solutions are developed based on consideration of relevant information and options and proposed solutions are communicated and implemented as required against works schedule and anomalies reported in accordance with established procedures
	3.2	Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3	Solution is implemented in accordance with standard operating procedures ensuring that action is correctly documented, the transaction is accurately processed and the customer is advised
	3.4	Work completion records, reports and documentation are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G703 B Billing exceptions and conditions

G 3.7.1 Administrative working environments in the Gas Industry

Evidence shall show an understanding of the requirements to

work in an administrative environment in the Gas Industry, indicated by the following:

- manage work to achieve goals and results
- use available routine information appropriate to work responsibility
- make decisions within responsibility and authority
- understand and adhere to standard operating procedures in a gas environment
- ability to liaise with a broad range of clients
- general business and organisational skills
- ability to write concise and clear business letters
- telephone techniques and verbal communication
- basic bookkeeping.

G 3.7.2 Communication, negotiation and problem solving techniques

Evidence shall show an understanding of communication, negotiation and problem solving skills required in a Gas Industry environment, indicated by the following:

- monitor/introduce practices designed to improve performance
- use effective consultative processes
- communicate routine and non-routine information clearly to senior managers, peers and subordinates
- ability to liaise effectively with a range of clients
- clear and accurate observation and analytical skills
- negotiation and dispute resolution and problem solving.

G 3.7.3 Understand and use appropriate accounting program

Evidence shall show an understanding of the requirements to understand and use appropriate accounting programs for a Gas Industry billing environment, indicated by the following:

- select and use available technology appropriate and including accounting systems.

G 3.7.4 Utilities industries meters

Evidence shall show an understanding of the working of the various meters used across the utilities industries, indicated by the following:

- understand the type and function of the various types of utilities industries meters.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
  - Apply sustainable energy principles and practices as specified in the performance criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**

A	At least 6	Exceptions and conditions: Long term bill accounts (12 months) Meter changes Manual bills Daily accounts Active and inactive accounts Gas used on an inactive account i.e. vacant premises Meter reader is unable to find the meter Missing meter/records Unknown consumer investigations Vacant premises investigations Meter relocations
B	At least 4	Investigating billing exceptions, field calls regarding: Owner/occupiers' of properties Dates of entry of owner/occupier Meter reading for billing purposes Meter identification details Other relevant information such as forwarding address Payment arrangements
C	At least 3	Telephone contact to: Consumers Council/rates office Real estate agents Internal

		employees/departments Other statutory authorities
D	All	Liaison with customers through: In person Telephone Fax Letter Internet
E	At least 4	Solutions include: Arrange the removal of inactive meters Account billed Change meters Arrangements for payment made Adjust accounts Access for future meter reading made
F	All	Administrative working environments in the Gas Industry Communication, negotiation and problem solving techniques Understand and use appropriate accounting program Utilities industries meters
G	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in investigating billing exceptions/conditions.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B	Carry out work activities in a utilities industry work environment
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to investigating billing exceptions/conditions.

The following constants and variables included in the element/performance criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Exceptions and conditions (3)

Problems (3)

Investigating billing exceptions (3)

Telephone contact (3)

Liaison with customers (3)

Solutions (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Support services

UEGNSG704A Conduct an appliance relight

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit covers the undertaking of a domestic appliance relight by a designated gas industry person following manufacturers lighting instructions and company standard operating procedures. The competency standard unit includes the use of hand tools to disconnect and reconnect meters, following occupational health and safety requirements and completing records and appropriate documentation.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

License to practice **3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEGNSG701B	Process meter reading information using appropriate technology
UEGNSG702B	Read and record meter readings

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare to conduct an appliance relight	1.1	Instructions for the preparation of the appliance relight are received and confirmed to ensure clear understanding
	1.2	OHS, environmental and sustainable energy policies and procedures are received and confirmed to ensure they are understood as to be applied in the carrying out of the work
	1.3	Equipment, tools and personal protective equipment needed to conduct an appliance relight are identified, scheduled and checked to ensure they work correctly as intended and are safe to use in accordance with established procedures
	1.4	Appropriate persons are consulted to ensure the appliance relight is coordinated effectively with others involved
	1.5	Resources and materials needed to conduct an appliance relight are confirmed, scheduled and obtained in accordance with established procedures
	1.6	Schedule of work including practices for working safely are confirmed in accordance with established procedures

ELEMENT	PERFORMANCE CRITERIA	
2 Carry out an appliance relight	2.1	OHS policies and procedures and safe work practices required for conducting an appliance relight are followed to eliminate or minimise incidents and hazards
	2.2	Schedule of work is followed to ensure work is completed in an agreed time, to a quality standard and with a minimum of waste
	2.3	Operational knowledge for utilising correct and safe use of basic equipment and tools to perform an appliance relight is confirmed to ensure completion in an agreed time and to a quality standard with a minimum of waste according to requirements and established procedures
	2.4	Appliance relight is undertaken following manufacturer's instructions
	2.5	Further instructions are sought from appropriate persons for unplanned events or conditions occurring
	2.6	Ongoing checks of quality of the work are undertaken in accordance with instructions and requirements
3 Complete the appliance relight	3.1	Final checks including visual observation is performed to ensure the quality of the work complies with established procedures and to appliance manufacturers instructions
	3.2	Appropriate persons are notified of completion of the work
	3.3	Equipment and tools and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.4	Work area is cleaned up and made safe and sustainable energy practices are followed
	3.5	Appropriate records and documentation are updated in accordance with instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G704 A **Appliance relight**

G 2.2.43 Appliance relighting within enterprise guidelines

Evidence shall show an understanding of Appliance relighting indicated by the following:

- Customer liaison skills
- Identify environmental and safety hazards, assess risks and implement control measures
- Safety requirements for entering domestic and commercial customer sites
- Procedures for purging service lines
- Procedures for conducting appliance relights

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment,

such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also

comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures
- Conduct work observing the relevant Anti discrimination legislation, regulations, polices and workplace procedures

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Communicate effectively with appropriate personnel and customers Accurately complete records and documentation Follow work schedules including meeting

		appointments Effectively use tools and equipment to conduct an appliance relight Advise stakeholders of potentially dangerous or illegal situations
B	All	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in conducting appliance relights.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the key competencies.

Method of assessment **9.4)**

This Unit shall be assessed by methods given in Volume 1 Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Associated Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Units where listed.

UEGNSG701B Process meter reading information using appropriate technology

UEGNSG702B Read and record meter readings

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Unit shall/may be demonstrated in relation to carrying out work activities in a utilities industry work environment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate persons (2)

Hand tools to disconnect and reconnect meters

Includes footprints, spanners, neon tester, bonding leads, soap tester, safety matches

Safe working procedures (2)

Legislative requirements (2)

Personal Protective Equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Support services

UEGNSG801B Monitor and operate complex flow control, measuring and regulating devices for gas distribution

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the monitoring and operation of complex flow control, measuring and regulating devices to monitor and control gas supply in gas distribution systems. The competency standard refers to Inspecting and Controlling; Regulation of flow and pressure; Measuring; Recording and reporting; Regulation of flow and regulation devices; Regulation of the system; Equipment; Organisational and statutory requirements.

Application of the Unit

Application of the Unit **2)**

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit are not subject to licence regulation other than those directly

License to practice **3)**

related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age at which persons can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare for the operation of complex flow control	1.1	Work requirements for monitoring and operating complex flow control, measuring and regulating devices are interpreted from plans, specifications and instructions
	1.2	Relevant requirements and established procedures for the work are communicated to all persons
	1.3	OHS, environmental and sustainable energy policies and procedures related to the monitoring and operating of complex flow controls are obtained and confirmed for the purposes of the work performed and communicated
	1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
	1.5	Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule
	1.6	Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures
	1.7	Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for investigating billing exceptions and conditions are identified,

ELEMENT	PERFORMANCE CRITERIA	
		scheduled and obtained and confirmed in working order
	1.8	Liaison and communication with authorised persons, authorities, clients and land-owners is completed so that work can be carried out where necessary
	1.9	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Repair and replace complex flow control devices and equipment and monitor system performance	2.1	Information on device and equipment performance is collected and reported in accordance with organisational requirements
	2.2	Dealings with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3	Essential Knowledge and Associated Skills for monitoring and operating complex flow control devices are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4	Routine inspections of system are scheduled and monitored in accordance with the work schedule and established procedures
	2.5	Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6	Data on system performance and usage is collected, analysed and reported and unplanned events in the monitoring and operation of complex flow control are undertaken with the scope of established procedures

ELEMENT	PERFORMANCE CRITERIA	
	2.7	Samples are taken in accordance with established procedures and known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8	Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Control and adjust flows and compile records and reports	3.1	Flow and overflow regulating systems are inspected and adjustments made to meet demand and customer requirements
	3.2	Accidents and injuries are reported in accordance with established procedures where applicable
	3.3	Flows and diversions are determined to facilitate repair or emergency activities in accordance with organisational requirements
	3.4	Process faults and operational conditions of the system are identified, addressed and reported in accordance with organisational requirements
	3.5	Work completion records, reports and documentation are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for carrying out work in a gas industry environment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G801B Complex flow control device operation

G 3.2.1 Consulting appropriate persons to coordinate work and persons on a Gas Industry workplace

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons for Gas Industry pipelines (Distribution), indicated by the following:

- personnel requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists.

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 3.2.17 Maintain records

Evidence shall show an ability to maintain of records for the

repair and modification of Gas Industry pipelines (Distribution) systems, indicated by the following:

- Interpret and apply enterprise policies and procedures
- Collate all relevant data
- Identify and complete the relevant records, drawings, documents and forms
- Store records in a secure manner consistent with enterprise policies and procedures

G 3.2.19 Liaise and communicate with relevant parties

Evidence shall show an understanding of liaising and communicating with relevant parties involved in repair or modification of Gas Industry pipelines (Distribution), specifically:

- Interpret and apply enterprise policies and procedures
- Identify key stakeholders
- Identify specialists that can assist in repair/modification work
- Identify responsibilities and reporting requirements of third parties
- Establish communication lines with parties that require notification of repairs/modifications

G 3.8.1 Control systems operations flow

Evidence shall show an understanding of the workings of gas flow and the devices used to control flow control, indicated by the following:

- understanding gas flow control devices.

G 4.1.5 Interpret Gas Industry drawings

Evidence shall show an ability to interpret and understand Gas Industry technical drawings, indicated by the following:

- understanding and interpreting relevant technical drawings including, but not limited to:
  - Process and Instrumentation Diagrams (PID)
  - Facility and pipeline construction and as-built drawings
  - Geographical Information System (GIS) drawings and data
  - Electrical drawings
  - Survey maps
  - Pipeline route maps and alignment sheets

G 4.1.53 SCADA system operation

Evidence shall show an understanding and application of applicable principles, functions and practical operation of a Supervisory Control and Data Acquisition System (SCADA) in a Gas Industry environment indicated by the following:

- Understand the principle of SCADA use in monitoring and control of applicable organisational gas infrastructure.
- Identification of the basic elements and functions of a SCADA system including but not limited to:
  - Data collection and equipment control functions including:
- Remote Terminal Unit (RTU)
- Plant Control System (PCS)
  - System Controller interface such as Human Machine Interface (HMI)
  - Data and voice communication including:
- Satellite Link
- Radio Link
- Internet Protocol (IP)
- Modem/ISDN
- UHF/VHF Radio
- Microwave
- Leased land Line
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Understanding and demonstration of applicable monitoring, control and trending functions using the SCADA system including, but not limited to:
  - Start up and shut down of SCADA system interfaces
  - Adjustment of applicable security status on SCADA functions to suit requirements
  - Alarm monitoring, acknowledgement, prioritisation and escalation
  - Alarm inhibit/enablement/disablement
  - Changing of applicable alarm parameters as required
  - Analysis of SCADA trends and abnormal operating conditions
  - Creation of SCADA trends as applicable
  - Filtering of alarm and event logs
  - SCADA point maintenance and adjustment including:
- Scanning ranges and properties
- Control limitations

- Detailed history retrieval options
- Auxiliary control functions
- Dead band adjustment
- Carry out basic SCADA troubleshooting including, as applicable:
  - SCADA server synchronisation and switch to backup
  - Shutdown and re-start of SCADA system
- Understanding SCADA system data recording and data communication capabilities with third-party software applications such as external databases and spreadsheet programs etc.
- If applicable, carry out the updating of SCADA displays with new or modified displays

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being

assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines — UEG11". Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	At least 3	Interpret technical drawings and symbols Selection of appropriate tools and equipment System knowledge of TP, HP, MP, LP Relevant knowledge of AS1697 Distribution Code
B	All	Auxiliary control systems knowledge & understanding Wide open monitor operation

		Two stage pressure reduction with monitor override
C	All	SCADA Operation awareness SCADA control system layout and operation awareness SCADA auxiliary low pressure operation awareness Failsafe pilot operation
D	All	Winter testing programme Tapping domestic services Installation of recorders
E	All	Pressure Recorders Knowledge & understanding of pressure recorders Chart changing at Distribution Regulator Stations
F	At least 2	Pressure Controllers, operation, maintenance & understanding Commissioning/Setting, Troubleshooting Pressure Boosters minor repairs Knowledge of types/models
G	At least 2	Basic regulator knowledge & understanding Sleeve types Diaphragm types Hydraulic Plug types

H	All	Distribution Valves: Valve maintenance & operation Configuration of Ball, Plug, Gate Instrument & Butterfly valves
I	At least 2	Metering knowledge & understanding Diaphragm meters Rotary meters Turbine meters Oil changing
J	At least 3	Operational checks Single run units Dual run units District regulators Field regulators
K	At least 3	Maintenance Activities Single run units Dual run units District Regulators Field Regulators
L	At least 3	Pressure alterations Industrial units Regulator Stations Distribution mains
M	At least 3	Flaring & Purging Industrial units Regulator Stations Distribution mains
N	At least 3	Overpressure Protection Systems function & operation

		OPSO Internal pressure relief systems Pressure relief valves Slam Shut systems Valve Actuator & control systems
O	All	Paperwork: Risk assessments Time sheets Completing work sheets Notifications and work permits Equipment check lists Meter Bypass forms Service orders Pressure recording charts
P	All	Regulator station Heaters: Heater: scheduled maintenance procedures Heater: operational checks. Water quality testing
Q	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a

workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in monitoring and operating complex flow control, measuring and regulating devices for gas pressure control.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 "Assessment Guidelines".

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied competency standard units where listed.

UEGNSG10 Carry out work activities in a utilities industry work

2B	environment
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEGNSG104B	Comply with environmental policies and procedures
UEGNSG105B	Establish the work site
BSBFLM312B	Contribute to team effectiveness
BSBFLM303C	Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the monitoring and operating of complex flow control, measuring and regulating devices for gas pressure control.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Inspecting and controlling

Regulation of flow and pressure

Measuring

Recording and reporting

Regulation of flow and regulation devices

Regulation of the system

Equipment

Organisational and statutory requirements

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Systems operations

UEPOPS203B Operate and monitor communications system

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit deals with the skills and knowledge required to operate and monitor the application of communications systems.

Application of the Unit

Application of the Unit **2)**

This unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit do not require a licence to practise in the workplace. However, practice in this unit is subject to regulations directly related to Occupational Health and Safety and where applicable contracts of training such as apprenticeships and the like.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed.

There are no pre-requisite units

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following levels. A description of what each level entails is provided in Section 2.3.1 Language, Literacy and Numeracy.

Reading 2 Writing 2 Numeracy 2

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Select and use equipment	1.1	The appropriate medium for communication is determined from analysis of available options, previous communication or current circumstances and used in accordance with enterprise guidelines, manufacturer's and/or site requirements
	1.2	Communication procedures for opening, passing and receiving messages are conducted to enterprise/site requirements
	1.3	Communication equipment is used in accordance with manufacturer's and enterprise/site procedures
	1.4	Limitations of communication links are identified and alternatives considered
	1.5	Communication is conveyed logically, concisely and articulately in a manner appropriate to the situation to satisfy job requirements
	1.6	Where appropriate, the teams and individuals roles and responsibilities within the team are identified and, where required, assist in the provision of the on-the-job training
2 Monitor communication system	2.1	Data acquisition is monitored and assessed for quality and action taken in accordance with enterprise/site procedures
	2.2	Effectiveness of communication, including understanding of the intent and content, is confirmed between the parties in accordance with site requirements

ELEMENT	PERFORMANCE CRITERIA	
	2.3	The need for communication assistance is identified and addressed in accordance with job requirements
3 Complete documentation	3.1	Documentation is updated, logs maintained and equipment problems, abnormalities and status are reported and logged in accordance with enterprise/site procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence must show that knowledge has been acquired of safe working practices and communication systems.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-PO203B Communication Systems

Evidence shall show an understanding of communication systems to an extent indicated by the following aspects:

T1 Use of a range of electronic communication tools including:

- facsimile;
- telephone (POTS and mobile);
- two-way radio or CB radio;
- SMS messaging;
- personal computers;
- e-mail;
- Internet/Intranet messaging;
- pager; and
- intercom

according to licensing regulations, enterprise requirements and manufacturers' instructions.

T2 Use of a range of non-electronic communication tools, including:

- spoken communication; and
- hand signals.

T3 Communication protocols and procedures required when using the following mediums:

- facsimile;
- telephone (POTS and mobile)
  - answering procedures
  - limitations of mobile phones including black/dead spots;
- two-way radio or CB radio
  - call signs
  - calling in and signing off
  - Privacy and security
  - using common channels and repeaters
  - limitations including black/dead spots;

REQUIRED SKILLS AND KNOWLEDGE

- SMS messaging;
- E-mail
  - etiquette;
- Internet/Intranet messaging
  - privacy and security;
- pager;
- intercom;
- report forms;
- log books;

T4 Interpersonal communication

- communicating facts clearly;
- communicating technical concepts to non-technical people;
- active listening skills;
- dealing with difficult, angry or irate people;
- on-the-job training techniques.

T5 Enterprise Recording Procedures

- Reports;
- Logs;
- Databases;
- Escalation procedures

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the competency standard unit and must be read in conjunction with the Performance Criteria and the Range Statement of the competency standard unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this competency standard unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best

utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all pre-requisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each Element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines – UEP12". Evidence shall also comprise:

- Each Element on at least two occasions
- A representative body of work performance demonstrated

within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:

- Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and Range Statement
- Apply sustainable energy principles and practices as specified in the Performance Criteria and Range Statement
- Demonstrate an understanding of the Essential Knowledge and Associated Skills as described in 6) Essential Knowledge and Associated Skills of this unit
- Demonstrate an appropriate level of employability skills
- Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures

- Demonstrated performance across a representative range of contexts from the prescribed items below:
  - Knowledge and application of relevant sections of: Occupational, health and safety legislation; Statutory legislation; Enterprise/site safety procedures; Enterprise/site emergency procedures
  - Acknowledging and prioritising fault communication
  - Selecting and applying communication systems
  - Monitoring communication systems
  - Dealing with an unplanned event by drawing on Essential Knowledge and Skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this competency standard unit

Competency Standards should be assessed in the workplace or simulated workplace and under the normal range of workplace

conditions.

Assessment of this unit will be supported with documentary evidence, by means of endorsement stating type and application of work.

In addition to the resources listed above in Context of assessment', evidence should show competency working in confined spaces, with different types of plant and equipment as well as different structural/construction types and method and in a variety of environments

Method of assessment **9.4)**

This unit shall be assessed by methods given in Section 1.3.00 Assessment Guidelines.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this competency standard unit applies. This requires that the specified Essential Knowledge and Associated Skills be assessed in a structured environment, which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied competency standard units where listed.

Nil

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

Medium for communications may include facsimile, telephone, radio, other electronic medium, memo, letter, report form, log book, switchboard, e-mail, pager, intercom, CB, poster, personal contact, signal and body language

Information and documentation sources may include verbal or written communications; enterprise safety rules documentation; enterprise operating instructions; dedicated computer equipment; enterprise/site standing and operating instructions; enterprise log books; manufacturer's operation and maintenance manuals; and equipment and alarm manuals

Communication procedures may include protocol, appropriate forms/log books, telephone answering procedure and radio procedure

Limitations may be radio/mobile phone dead spots, weather conditions, customer language barriers, customers lack of technical knowledge and incoherent or irate callers

Generic terms are used throughout this Training Package for vocational standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms are given in Section 2.1 Preliminary Information and Glossaries.

Access skills and knowledge for employment

This unit is not suitable for work entry and is intended for building upon competencies previously acquired.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Operations

UEPOPS205B Conduct minor mechanical maintenance

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This unit deals with the skills and knowledge required to conduct a range of minor/basic maintenance functions associated with, but not limited to, mechanical equipment.

Application of the Unit

Application of the Unit **2)**

This unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit do not require a licence to practise in the workplace. However, practice in this unit is subject to regulations directly related to Occupational Health and Safety and where applicable contracts of training such as apprenticeships and the like.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed.

There are no pre-requisite units.

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following levels. A description of what each level entails is provided in Section 2.3.1 Language, Literacy and Numeracy.

Reading 2 Writing 2 Numeracy 2

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA	
1 Plan and prepare for the work	1.1	Work requirements are identified from request/work orders or equivalent and clarified/confirmed with appropriate parties or by site inspection
	1.2	Occupational Health and Safety standards, statutory requirements, relevant Australian standards, codes of practice, manufacturers' specifications, environmental requirements and enterprise procedures are identified, applied and monitored throughout the work procedure
	1.3	Resources required to satisfy the work plan are identified, obtained and inspected for compliance with the job specifications
	1.4	Relevant plans, drawings and texts are selected and interpreted in accordance with the work plan
	1.5	Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications
	1.6	Work is planned in detail including sequencing and prioritising and considerations made, where appropriate, for the maintenance of plant security and capacity in accordance with system/site requirements
	1.7	Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work

ELEMENT	PERFORMANCE CRITERIA	
	1.8	Potential hazards are identified and prevention and/or control measures are selected in accordance with the work plan and site procedures
	1.9	Work area is prepared in accordance with work requirements and site procedures
2 Conduct minor maintenance	2.1	Required isolations are confirmed where appropriate in accordance with enterprise requirements
	2.2	Minor maintenance is conducted in accordance with the work plan and site requirements
	2.3	Minor adjustments are undertaken in accordance with prescribed procedures and schedules and site requirements
	2.4	Faults are reported to the relevant parties in accordance with site/enterprise procedures
3 Complete the work	3.1	Work is completed and appropriate personnel notified in accordance with site/enterprise requirements
	3.2	Work area is cleared of waste, cleaned, restored and secured in accordance with site/enterprise procedures
	3.3	Plant, tools and equipment are maintained and stored in accordance with site/enterprise procedures
	3.4	Work completion details are finalised in accordance with site/enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence must show that knowledge has been acquired of safe working practices and minor mechanical maintenance.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-PO205B Mechanical Maintenance - Minor

Evidence shall show an understanding of how to undertake minor mechanical maintenance to an extent indicated by the following aspects:

T1 Use of a range of hand tools, including:

- Basic measuring tools, including rulers
- Screwdrivers

i. Flat blade

ii. Phillips head

iii. Posidrive

iv. Torx™

- Metal hacksaw
- Hammers

i. Ball pein

ii. Claw hammer

iii. Club hammers

iv. Soft-faced hammers or mallets

- Spanners and sockets

i. Open-ended spanners

ii. Ring spanners

iii. Adjustable spanners

- Pliers

i. Combination pliers

ii. Long nose pliers

iii. Multi-grip

iv. Vice grips

- Wrenches

REQUIRED SKILLS AND KNOWLEDGE

i. Stillson

ii. Footprint

- Allen keys
- Scrapers.

T2 Use of a range of small power tools, including:

- Pistol drills
- Battery drills and screwdrivers
- Angle grinders and polishers (buffers)
- Sanders

T3 Use a range of engineering workshop tools, including:

- Benders
- Guillotines

T4 Identification of a range of different types of metals, including:

- Mild Steel
- Sheet steel
- Aluminium
- Sheet aluminium
- Copper
- Brass

T5 Drill a range of materials using the correct drill bit type, including:

- Mild Steel
- Aluminium
- Copper

T6 Prepare surfaces on engineering materials for maintenance through:

- Sanding
- Grinding
- Polishing

T7 Clean machinery using techniques including:

- Water
- Pressure washers
- Steam cleaners
- Hydrocarbon solvents

T8 Air receivers and air lines

- Blow down air receivers
- Maintain oil levels in oilers
- Empty and wipe out dryers

REQUIRED SKILLS AND KNOWLEDGE

T9 Health, Safety and Environment practices and procedures, including:

- Risk assessment
- Control of hazards
- Identification and correct use of personal protective equipment
- Manual handling techniques
- Compliance with 'Permit-to-Work' requirements and equipment isolation procedures
- Dealing with waste in an environmentally appropriate manner
- Housekeeping

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the competency standard unit and must be read in conjunction with the Performance Criteria and the Range Statement of the competency standard unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this competency standard unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may

be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all pre-requisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each Element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines – UEP12". Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and Range Statement
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and Range Statement
  - Demonstrate an understanding of the Essential Knowledge and Associated Skills as described in 6) Essential Knowledge and Associated Skills of this unit
  - Demonstrate an appropriate level of employability skills

- Conduct work observing the relevant Anti-Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated performance across a representative range of contexts from the prescribed items below:
  - Knowledge and application of relevant sections of: Occupational, health and safety legislation; Statutory legislation; Enterprise/site safety procedures; Enterprise/site emergency procedures
  - Acquiring and analysing information relevant for recording
  - Maintaining records
  - Retrieving records
  - Dealing with an unplanned event by drawing on Essential Knowledge and Skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this competency standard unit

Competency Standards should be assessed in the workplace or simulated workplace and under the normal range of workplace conditions.

Assessment of this unit will be supported with documentary evidence, by means of endorsement stating type and application of work.

In addition to the resources listed above in Context of assessment', evidence should show competency working in confined spaces, with different types of plant and equipment as well as different structural/construction types and method and in a variety of environments.

Method of assessment **9.4)**

This unit shall be assessed by methods given in Section 1.3.00 Assessment Guidelines.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this competency standard unit applies. This requires that the specified Essential Knowledge and Associated Skills be assessed in a structured environment, which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied competency standard units where listed.

Nil

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

Minor maintenance may include lubrication, , gland nipping, draining of water taps, filter cleaning and changing, charging bowl and ball mills, exchange of conveyor rollers, removing/replacing access covers, replacing shear pins, applying plastic metals, degreasing, preparing surfaces, limited mechanical assembly and minor fabrication tasks e.g. brackets, gaskets.

Inspections should be planned with the appropriate parties to determine access, conditions and work requirements.

Materials may refer to lubricants, cleaning agents and emery paper.

Equipment may include pumps, fans, compressors, blowers, transmissions, a.c./d.c. rotating electrical plant, pipe work, heat exchangers, tanks, dampers, mills, feeders, crushers, conveyors and air slides.

Tools may include drills, angel grinders, buffers, sanders, grease guns, benders, guillotines, pressers, scrapers and hand tools.

Appropriate parties may refer to supervisor, tradesperson or operations personnel.

Work completion details and plans may include plant and maintenance records, job cards, check sheets, on device labelling updates and reporting and/or documenting equipment defects.

Work site environment may be affected by nearby plant or processes, e.g. chemical, heat, dust, noise, gas and oil.

Isolations can refer to electrical/mechanical or other associated processes.

Generic terms are used throughout this Training Package for vocational standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms are given in Section 2.1 Preliminary Information and Glossaries.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Operations

UETTDREL14A Working safely near live electrical apparatus as a non-electrical worker

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers compliance with working safely up to the defined "safe approach distance" near energised electrical apparatus (inc. electrical powerlines) for non-electrical workers. It includes work functions that may be performed, such as vegetation control, scaffolding, rigging, painting, and/or any other activity that requires working safely and complying with requirements and/or established procedures near live electrical apparatus by a non-electrical worker. Also included is the preparation of risk assessment control measures that encompass job safety assessment. It does not include any work that is or may be performed by other competent operatives within the defined "safe working zone". The defined "safe working zone" is that so defined by relevant State or Territory regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for Safe work and access near live Electrical and Mechanical Apparatus.

Application of the Unit

Application of the Unit

2)

This competency standards unit shall apply to Transmission, Distribution, Rail Traction, Telecommunications and Vegetation Management Control industry sectors.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit may require a licence/registration to practice in the work place subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to Occupational Health and Safety, electricity/telecommunications/gas/water industry safety and compliance, industrial relations, environmental protection, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed plus all the competencies in one (1) of the identified Pathway Unit Group(s):

There are no prerequisite competencies to this unit.

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 "Literacy and Numeracy".

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to work safely near live electrical apparatus as non-electrical worker	1.1 Instructions related to the work to be performed safely near live electrical apparatus as non-electrical worker are received and confirmed.
	1.2 Relevant requirements and established procedures to be followed and, relevant personnel to be communicated with for the work to be performed are identified.
	1.3 OHS policies and procedures to be followed for the work to be performed are received and confirmed.
	1.4 Suggestions to assist in meeting the safety requirements for working near live electrical apparatus as a non-electrical worker are made to others involved in the work.
	1.5 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept

ELEMENT	PERFORMANCE CRITERIA	
		clear according to established procedures.
	1.6	Scope of responsibility and process of relevant work permit(s) issue is identified, received and confirmed according to requirements and established procedures.
	1.7	Relevant responsibility associated with First Aid, Safety Observers and/or other related work safety procedures at the worksite are identified in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident.
	1.8	Processes for identifying and reporting client issues to appropriate personnel in accordance with industry/acceptable /community standards are identified.
	1.9	Site and the work schedule to be prepared are confirmed according to given instructions for a quality outcome and to minimise risk and damage to property, commerce, stock and individuals in accordance and established procedures.
	1.10	Electricity infrastructure assets, related voltages and requirements for working safely near live electrical apparatus as non-electrical worker are identified.
	1.11	Safe approach distances including any zones thereof that may apply, as defined in industry guidelines, requirements and/or established procedures for the intended work are confirmed.
2 Carry out the work safely near live electrical apparatus as non-electrical worker.	2.1	OHS principles and practices to reduce the incidents of accidents are identified in accordance with given instructions, requirements and/or established procedures.
	2.2	Working safely and complying with all safety requirements for working near live electrical apparatus as a non-electrical worker are followed in accordance with given instructions and

ELEMENT	PERFORMANCE CRITERIA	
		established routines/procedures.
	2.3	Processes for monitoring and reporting/referring hazards and OHS risks to the immediate authorised personnel for directions according to established procedures are followed.
	2.4	Non-routine events are referred to the immediate authorised personnel for directions according to established procedures.
	2.5	Unexpected events associated with working safely near live electrical apparatus as a non-electrical worker are responded to using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met.
3 Complete the work safely near live electrical apparatus as non-electrical worker.	3.1	Work schedule and anomalies for completion and checking of the work are reported to authorised personnel in accordance with established procedures.
	3.2	Processes for reporting to authorised personnel accidents and/or incidents are confirmed in accordance with established procedures.
	3.3	Requirements for returning work permit(s) and/or access authorisation permits are confirmed.
	3.4	Appropriate personnel are notified of work completion according to established procedures.
	3.5	Works completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) Essential Knowledge and Associated Skills (EKAS): This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of working safely near live electrical apparatus as non electrical worker.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-TEL14A Power Line Safety – Non Electrical Workers

Evidence shall show an understanding of power line safety – non electrical workers to an extent indicated by the following aspects:

T1 Basic electrical principles encompassing:

- Fundamental units - basic measurement of units
- Electrical characteristics of material: characteristics of solid materials, insulators; terms electrical charge, electrical current, electromagnetic forces
- Nature of electrical current and change - basic rules of electrical current flow
- Sources of Electricity: basic fundaments of alternating current, direct current and single EMF source (induction)
- A simple circuit - circuit protection devices used on the network, effects of an open circuit, a closed circuit and a short circuit and earthing – using the ground as a form of conductor to return current back to a source
- Resistance - relationship between voltage and current and resistance (Ohms Law)
- Effects of current - physiological effects and protection for physiological effects; basic principle by which electrical current can result in the production of heat, light and electromagnetic fields and typical effects of current.
- Three phase and single phase power systems: star delta configurations, three phase star connections, relationship between line and phase voltages, three phase 4 wire systems - purpose of the neutral
- Consequences of short circuits - arc flash, ESI Protection schemes
- Magnetism - magnetic field patterns, concepts of electromagnetism, effects of electromagnetism and magnetic fields around straight conductors
- Hazards encountered in an ESI environment - touch and step potentials, electric shock, fire, chemicals, falls, safe use of tools and equipment.

T2 Transmission, distribution and rail power systems encompassing:

- Relationship between the transmission, distribution and rail/tram system within an overall power system - different organisations responsible for generation, transmission, distribution and rail/tram and, how they correlate and their functions
- Characteristics of a transmission, a distribution and a rail system - principal components, typical voltage levels and methods of transmission and distribution including grid type transmission systems, radial, parallel and ring main feeders
- Relationship between an overhead and underground supply systems within an

REQUIRED SKILLS AND KNOWLEDGE

overall power system - advantages/disadvantages, applications.

- Single line drawings and layouts - drawings and layouts of transmission and distribution systems including, radial, parallel and ring main feeders and the HV equipment associated with substations

T3 Fundamentals for working safely near live electrical apparatus for non-electrical worker encompassing:

- Standards, guidelines/codes of practice, State/Territory/local government legislation, supply authority regulations and or enterprise requirements including relevant certification and licensing, applicable to working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker
- Definitions of terminologies - 'safe working zone', 'risk assessment', 'safe approach distances zones', 'safe working distances',' work permits', access authorisation permits', 'Technical standards', 'isolation procedures' and compliance requirements'
- OHS policies and procedures for working safely - duties of a safety observer, permit to work systems and isolation procedures, safe application of different types of tools and equipment and operation of mobile plant and machinery (e.g. EWP) near live electrical apparatus
- Techniques and precautions in undertaking different work functions and working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker (work functions that may be performed include, vegetation control, scaffolding, rigging, painting, and/or any other activity that requires working safely near live electrical apparatus by a non-electrical worker)

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the competency standard unit and must be read in conjunction with the Performance Criteria and the range statement of the competency standard unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all component parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment,

such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines – UET12". Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range; and
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range; and
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment; and
  - Demonstrate an appropriate level of employability skills; and
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/materials/procedures/workplaces/other variables		
Group No	**The minimum number of items on which skill is to be demonstrated**	**Item List**
A	All of the following:	Confirmation of the "safe working zone" for Safe work and access near live Electrical Apparatus Identification of the relevant technical standards. Acts, regulations and codes/guidelines Identification of established (Enterprise) procedures

B	All of the following:	Confirmation of the principles of electricity, the three phase power system, electric shock and resuscitation, power system Recognition of aerial voltage systems Identification of Low Voltage Aerial Circuits Identification of High Voltage
C	All of the following:	Procedures in the event of an incident Events constituting an incident Procedures for responding to incidents Hazard and risk assessment procedure Conduct Work-site Hazard Assessment Confirmation of essential components of Hazard Assessment Checks Applying Hazard Identification in Electrical Work Confirmation of the Basic Safety Principles for Work on Electrical works Hazard Identification and Risk Assessment Hazard Control Risk Assessment and Management (JSAs) Control The Hierarchy of Controls including

		Evaluation, Worksite Hazard and Risk Assessment Checklist, Pre-job Hazard Assessment Check (HAC) Items, Planned Inspection and Pre-Work Hazard Risk Assessment Form
D	All of the following:	Use of work permits and/or authorisation permits Sustainable energy principles and practices Possible affects of weather conditions on working near electrical apparatus as a non-electrical worker
E	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to safely undertake actual work near live electrical apparatus

In addition to the resources listed above, in context of and specific

resources for assessment, evidence should show demonstrated competency working below ground, in limited spaces, with different structural/construction types and method and in a variety of environments.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 "Assessment Guidelines".

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

For optimisation of training and assessment effort, competence in this unit is not recommended to be assessed concurrently with any other unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to safe working so defined by relevant State or Territory regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for Safe work and access near live Electrical Apparatus.

Work functions that may be performed, such as vegetation control, operation of cranes, elevating work platforms, excavators, concrete pumps etc, scaffolding, rigging, painting, and/or any other activity that requires working safely and complying with requirements and/or established procedures near live electrical apparatus by a non-electrical worker/

Working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker including an understanding of risk assessment control measures that encompass job safety assessment but excluding any work that is or may be performed by other competent operatives within the defined "safe working zone".

Safe use of plant, equipment and tools within electrical environments including but not limited by the electricity supply infrastructure assets, infrastructure constructions and excavations including an understanding of safe approach distances zones/Safe Working Clearance, work permit(s) and/or access authorisation permits, technical standards and Industry Guidelines, rural applications, road construction, pavements and effect of inclement weather

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section 1 of this volume and form an integral part of the Range Statement of this unit:

- Appropriate and relevant persons
- Appropriate authorities
- Assessing risk
- Authorisation
- Drawings and specifications
- Emergency
- Established procedures
- Hazards
- Identifying hazards
- Legislation
- Notification
- OHS practices
- OHS issues

RANGE STATEMENT

- Permits and/or permits to work
- Work clearance systems

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Entry Level – Cross Discipline Units.

UETTDREL15A Respond to power systems technical enquiries and requests

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers responding to enquiries of a technical nature using electricity supply industry (ESI) transmission, distribution and rail/tram network requirements, techniques and processes. It includes the relevant application of knowledge of relevant acts and regulations, codes of practice, guidelines and compliance regimes, and arrangements used to facilitate a response to enquiries or requests. The enquiries may be internal or with customers.

Note: examples include "storm codes" identification of key equipment, recognition of normal and abnormal industry situations, key processes and systems used in the industry such as, maps and the application of general safety and environmental processes and practices used in the industry.

Application of the Unit

Application of the Unit **2)**

This competency standard unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice **3)**

The skills and knowledge described in this unit may require a licence/registration to practice in the work place subject to regulations for undertaking of work. Practice in workplace and during training is also subject to regulations directly related to occupational health and safety, electricity/ telecommunications/ gas/ water industry safety and compliance, industrial relations, environmental protection, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s) **4)**

Competencies **4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed plus all the competencies in one (1) of the identified Pathway Unit Group(s):

There are no prerequisite competencies to this unit.

Literacy and numeracy skills **4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 "Literacy and Numeracy".

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills **5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to respond to technical enquiries and requests	1.1 Instructions related to responding to enquiries using industry requirements, techniques and processes of a technical nature to be performed are received and confirmed
	1.2 Relevant requirements and established procedures to be followed and, relevant personnel (including internal and/or customer) to be communicated with for the work to be performed are identified
	1.3 OHS policies and procedures to be followed for the work to be performed are received and confirmed.
	1.4 Suggestions to assist in meeting the safety requirements for responding to technical enquiries and requests are made to others involved in the work.
	1.5 Hazards are identified; OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept

ELEMENT	PERFORMANCE CRITERIA	
		clear according to established procedures.
	1.6	Scope of responsibility and process of relevant work permit(s) issue is identified, received and confirmed according to requirements and established procedures
	1.7	Relevant responsibility associated with First Aid, Safety Observers and/or other related work safety procedures at the worksite are identified in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident
	1.8	Processes for identifying and reporting client (including internal and customer) issues to appropriate personnel in accordance with industry/acceptable /community standards are identified
	1.9	Workplace and the work schedule is confirmed according to given instructions for a quality outcome and to minimise risk and damage to property, commerce, stock and individuals in accordance and established procedures
	1.10	Electricity infrastructure assets, related voltages and requirements, where applicable, for working safely near live electrical apparatus as non-electrical worker are identified
	1.11	Safe approach distances including any zones thereof that may apply, as defined in industry guidelines, requirements and/or established procedures for the intended work are confirmed
2 Carry out responses to technical enquiries and requests	2.1	OHS principles and practices to reduce the incidents of accidents are identified in accordance with given instructions, requirements and/or established procedures
	2.2	Enquiries and/or requests are responded to according to requirements and established procedures, and in a timely manner
	2.3	Working safely and complying with all safety requirements for responding to technical

ELEMENT	PERFORMANCE CRITERIA	
		enquiries and requests are followed in accordance with given instructions and established routines/procedures
	2.4	Processes for monitoring and reporting/referring hazards and OHS risks to the immediate authorised personnel for directions according to established procedures are followed
	2.5	Non-routine events are referred to the immediate authorised personnel for directions according to established procedures
	2.6	Essential knowledge and associated skills are applied in the application of responding to technical enquiries and requests to ensure completion in an agreed timeframe and, to quality standards with a minimum of waste according to requirements
	2.7	Unexpected events associated with enquiries and/or requests of a technical nature are responded to using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met.
3 Complete responses to technical enquiries and requests	3.1	Work schedule and anomalies for completion and checking of the work are reported to authorised personnel in accordance with established procedures
	3.2	Processes for reporting to authorised personnel accidents and/or incidents are confirmed in accordance with established procedures
	3.3	Requirements for returning work permit(s) and/or access authorisation permits, where applicable, are confirmed
	3.4	Appropriate personnel are notified of work completion according to established procedures.
	3.5	Works completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) Essential Knowledge and Associated Skills (EKAS): This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge of responding to technical enquiries and requests has been acquired.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-TEL15A ESI power systems overview

Evidence shall show an understanding of ESI power systems structures and operations to an extent indicated by the following aspects:

T1 Engineering applications of material properties encompassing:

- Identification and classification of engineering materials including material properties
- Types and applications - properties of tensile strength, effects of temperature on the expansion of metals, ductibility, malleability, work hardening and annealing and the conditions that lead to corrosion and the properties of timbers

T2 Generation power systems encompassing:

- Methods of generating electricity - types of power stations and reasons for their location, layout of thermal and hydroelectric power stations
- Relationship between power control and load requirements - operating speeds for thermal and hydroelectric generating sets, typical generator voltage levels and output ratings
- The purpose and features of typical types of co-generation systems

T3 Transmission, distribution and rail power systems encompassing:

- Relationship between the transmission, distribution and rail/tram system within an overall power system - different organisations responsible for generation, transmission, distribution and rail/tram and, how they correlate and their functions
- Characteristics of a transmission, a distribution and a rail system - principal components, typical voltage levels and methods of transmission and distribution including grid type transmission systems, radial, parallel and ring main feeders
- Relationship between an overhead and underground supply systems within an overall power system - advantages/disadvantages, applications and the basic steps for planning and installing an overhead and underground distribution system
- Single line drawings and layouts - drawings and layouts of transmission and distribution systems including, radial, parallel and ring main feeders and the HV equipment associated with substations

T4 Fundamentals for working safely near live electrical apparatus encompassing:

- Standards, guidelines/codes of practice, State/Territory/local government legislation, supply authority regulations and or enterprise requirements including

REQUIRED SKILLS AND KNOWLEDGE

relevant certification and licensing, applicable to working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker

- Definitions of terminologies - 'safe working zone' 'risk assessment', 'safe approach distances zones', 'safe working distances'.' work permits', access authorisation permits', 'Technical standards' 'isolation procedures' and compliance requirements'
- OHS policies and procedures for working safely - emergency response and First Aid procedures such as CPR, roles and responsibilities of employers, employees and other parties under OHS legislation, personal protective equipment, identifying hazards, assessing and controlling OHS risks, first aid procedures, duties of a safety observer, working at heights/confined spaces, permit to work systems and isolation procedures, safe application of different types of tools and equipment
- Operation of mobile plant and machinery (e.g. EWP) near live electrical apparatus
- Electricity supply infrastructure assets and voltages
- Techniques and precautions in undertaking different work functions and working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker (work functions that may be performed include, vegetation control, scaffolding, rigging, painting, and/or any other activity that requires working safely near live electrical apparatus by a non-electrical worker)

T5 Enterprise specific — policy and procedure instructions encompassing:

- Responsibilities and duty of care of employer and employee relationship
- Methods of obtaining the up-to-date information on enterprise policy and procedures
- Rules and regulations
- Induction into workplace - location of work area and storage area, timetable, uniform, personal well-being, housekeeping rules, emergency procedures, evacuation procedures
- Techniques when deal with others - working in teams, customer relation, complaint and issues procedures.
- Overview of enterprise professional development - fire fighting procedures, fatigue management, training and competency development - understanding and promotion

T6 Enterprises specific — OHS instructions encompassing:

- Standards, codes, legislation, supply authority regulations and specific enterprise regulations pertaining to the OHS policies and procedures
- Methods of obtaining the up-to-date information on enterprise OHS policy and procedures
- Specific enterprise personal protection equipment - type and application, where and when to be used, method of replacement, responsibility of maintenance including cleaning inspection and testing, emergency response, rescue, evacuation

REQUIRED SKILLS AND KNOWLEDGE

and First Aid procedures

- Personal well-being – hygiene, fatigue/stress management, drugs/alcohol
- OHS training - induction training, specific hazard training, specific task or equipment training, emergency and evacuation training, training as part of broader programs such as equipment operation
- OHS records including audits, inspection reports, workplace health and environmental monitoring records, training and instruction records, manufacturers and suppliers information such as MSDSs, registers, maintenance reports, workers compensation and rehabilitation records and First Aid/medical records

T7 Enterprises specific — technical drawing and documents encompassing:

- Types and application of enterprise specific drawings and documents - electrical and electronic drawings, mechanical drawings, project charts, schedules, graphs, technical manuals and catalogues
- Instruction/worksheets sheets - types and application of enterprise specific symbols and diagrams
- Title box - description of parts and version control

KS02-TEL15A Energy sector technical enquiries and requests

Evidence shall show an understanding of energy sector technical enquiries and requests to an extent indicated by the following aspects:

T1 Basic network operating principles and parameters encompassing:

- Sources of electricity
- Basic principles of electricity, the three phase power system, electric shock and resuscitation, power system
- Aerial and underground voltage systems
- Low Voltage network systems
- High Voltage network systems
- Equipment used in a network system
- MEN system
- Hazards and risks in a network system - risk to life, property or commerce, fallen wires/equipment, fires,
- Voltage gradients - step potential, touch potential — (transferred earth potentials)

T2 Applicable legislation, regulations, standards, industry codes, industry guidelines, and policies encompassing:

- relevant sections of legislation used
- relevant sections of international or Australian standards used
- relevant sections of Industry codes used
- relevant sections of Industry guidelines used
- relevant sections of policies used
- relevant sections of advisory information used

REQUIRED SKILLS AND KNOWLEDGE

T3 Incident event procedures

T4 Incidents constituting an event

T5 Incidence response procedures

T6 General Hazard and risk assessment principles and procedures

T7 Principles for conducting work-site Hazard Assessment checks,

T8 Basic safety principles and hazard control measures

T9 Key industry terms and performance indicators and measures used - SAIDI — System Average Interruption Duration Index, SAIFI - System Average Interruption Frequency Index, MAIFI — Momentary Average Interruption Frequency Index, CAIDI — Customer Average Interruption Duration Index; Network owners and operators

T10 Critical industry codes used - include storm code emergencies

T11 Key equipment used in the industry - industry-specific equipment, switchgear, transformers, aerial conductors, insulators, poles, mobile plant, mobile equipment

T12 Normal and abnormal industry situations, key processes and systems used in the industry - anomalies report, critical system/network failures/anomalies and key processes and systems used in the industry e.g. maps, drawings, as well as safety and environment processes and practices, communications systems; fires; automatic switching; emergencies; security breaches

T13 Techniques and processes for responding to a technical enquiry or request in accordance with established procedures in a timely manner - ethical performance; assessing applications, enquiries, or requests; using technology and media including catalogues to assist assessments; client quality service; reflecting on the completed enquiry or request

T14 Enquiries may be internal or with customers encompassing:

- customer protocols
- legal requirements and obligations for property access

T15 Relevant heritage and environmental requirements

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the competency standard unit and must be read in conjunction with the Performance Criteria and the range statement of the competency standard unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all component parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment **9.1)**

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit **9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines – UET12". Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range; and
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range; and
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment; and
  - Demonstrate an appropriate level of employability skills; and
- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and
  - Demonstrated performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/materials/procedures/workplaces/other variables		
Group No	**The minimum number of items on which skill is to be**	**Item List**

	demonstrated	
A	All of the following:	- Confirmation of the "safe working zone" for Safe work and access near live Electrical and Mechanical Apparatus - Application of knowledge of relevant acts and regulations, codes of practice, guidelines and compliance regimes, and arrangements used - Identification of established (Enterprise) procedures and processes
B	All of the following:	- Confirmation of the principles of electricity, the three phase power system, electric shock and resuscitation, power system - Recognition of aerial voltage systems - Identification of Low Voltage Networks - Identification of High Voltage Networks
C	All of the following:	- Procedures in the event of an incident - Events constituting an incident - Procedures for responding to incidents - Hazard and risk assessment general principles and procedures - Principles for

		conducting work-site Hazard Assessment checks, basic safety principles and hazard control measures
D	All of the following:	- Purpose and use of work permits and/or authorisation permits - Sustainable energy principles and practices - Possible affects of weather conditions on working near electrical apparatus as a non-electrical worker
E	All of the following:	Knowledge of critical codes in the industry – e.g. storm code emergencies - Identification of key equipment used in the industry - Recognition of normal and abnormal industry situations
F	All of the following:	- Provision of a response to a technical enquiry or request in accordance with established procedures and timely manner
G	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to safely undertake actual work near live electrical apparatus

Method of assessment **9.4)**

This competency standard unit shall be assessed by methods given in Volume 1, Part 3 "Assessment Guidelines".

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this competency standard unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

For optimisation of training and assessment effort, competence in this unit is not recommended to be assessed concurrently with any other unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This competency standard unit shall be demonstrated in relation to safe working so defined by relevant State or Territory regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for responding to technical enquires and requests.

Work functions may include the application of knowledge of electricity supply industry (ESI) transmission, distribution or rail/tram network requirements, techniques and processes and the application of knowledge of relevant acts and regulations, codes of practice, guidelines and compliance regimes, and arrangements used to facilitate a response to enquiries or requests. Examples include knowledge of critical codes in the industry – e.g. storm code emergencies, identification of key equipment, recognition of normal and abnormal industry situations, key processes and systems used in the industry such as, maps, catalogues, and the application of general safety and environmental processes and practices used in the industry.

Knowledge and identification of key equipment used in industry. Questioning (customer information gathering techniques) including observance of equipment, identification of anomalies from the norm and reporting of information. Recognition of normal and abnormal industry situations may include equipment, performance indicators, anomalies report, knowledge of critical system/network failures/anomalies and knowledge of key processes and systems used in the industry e.g. maps, drawings etc., and safety and environment processes and practices used in the industry.

Note:

Examples performance indicators are - SAIDI - System Average Interruption Duration Index, SAIFI - System Average Interruption Frequency Index, MAIFI - Momentary Average Interruption Frequency Index, CAIDI - Customer Average Interruption Duration Index

Enquiries may be internal or with customers.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section 1 of this volume and form an integral part of the Range Statement of this unit:

- Appropriate and relevant persons
- Appropriate authorities
- Assessing risk
- Authorisation
- Drawings and specifications
- Emergency
- Established procedures.

RANGE STATEMENT

- Hazards
- Identifying hazards
- Legislation
- Internal and external customers
- Notification.
- OHS practices
- OHS issues
- Permits and/or permits to work
- Work clearance systems.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Entry Level – Cross Discipline Units