



Australian Government

UEG11 Gas Industry Training Package

Release: 2.0

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Modification History

UEG11 Gas Industry Training Package Version 2.0

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Published by: E-Oz Energy Skills Australia
Release Date: 13 March 2014

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
2.0 UEG11	13 March 2014	NSSC Endorsement	<p>New Qualifications UEG20114; UEG30114; UEG40114; UEG50114; UEG60114;</p> <p>Removed Qualifications UEG20511; UEG20211; UEG20311; UEG20411; UEG30211; UEG40311; UEG50211; UEG60211</p> <p>New Units UEGNSG004A; UEGNSG005A; UEGNSG006A; UEGNSG132A; UEGNSG133A; UEGNSG134A; UEGNSG135A; UEGNSG136A; UEGNSG137A; UEGNSG138A; UEGNSG139A; UEGNSG140A; UEGNSG141A; UEGNSG142A; UEGNSG212B; UEGNSG213B; UEGNSG216A; UEGNSG217A; UEGNSG218A; UEGNSG219A; UEGNSG220A; UEGNSG221A; UEGNSG222A; UEGNSG223A; UEGNSG224A; UEGNSG225A; UEGNSG226A; UEGNSG227A; UEGNSG228A; UEGNSG229A; UEGNSG330A; UEGNSG331A; UEGNSG332A; UEGNSG333A; UEGNSG342A; UEGNSG344A;</p>

Version	Release Date	Authorisation	Comments
			<p>UEGNSG346A; UEGNSG347A; UEGNSG348A; UEGNSG349A; UEGNSG350A;; UEGNSG352A; UEGNSG353A; UEGNSG354A; UEGNSG355A; UEGNSG356A; UEGNSG411A; UEGNSG412A; UEGNSG506A; UEGNSG507A; UEGNSG508A; UEGNSG511A; UEGNSG512A; UEGNSG513A; UEGNSG514A; UEGNSG515A; UEGNSG614A; UEGNSG615A; UEGNSG616A; UEGNSG617A; UEGNSG618A; UEGNSG619A; UEGNSG620A; UEGNSG621A; UEGNSG622A; UEGNSG705A; UEGNSG706A; UEGNSG708A; UEGNSG711A; UEGNSG712A; UEGNSG713A; UEGNSG714A; UEGNSG804A; UEGNSG805A; UEGNSG806A; UEGNSG807A; UEGNSG811A;</p> <p>Removed Units</p> <p>UEGNSG003A; UEGNSG102B; UEGNSG104B; UEGNSG105B; UEGNSG107B; UEGNSG112B; UEGNSG125A; UEGNSG128A; UEGNSG202B; UEGNSG203B; UEGNSG205B; UEGNSG206B; UEGNSG208B; UEGNSG209B; UEGNSG212A; UEGNSG213A; UEGNSG214A; UEGNSG215A; UEGNSG301B; UEGNSG302B; UEGNSG304B; UEGNSG306B; UEGNSG307B; UEGNSG309B; UEGNSG312B; UEGNSG313B; UEGNSG315B; UEGNSG316B; UEGNSG317B; UEGNSG318B; UEGNSG320A; UEGNSG321A; UEGNSG322A; UEGNSG323A; UEGNSG328A; UEGNSG329A; UEGNSG401B; UEGNSG402B; UEGNSG501B; UEGNSG502B; UEGNSG503B; UEGNSG504B; UEGNSG505B; UEGNSG602B; UEGNSG603B; UEGNSG604B;</p>

Version	Release Date	Authorisation	Comments
			<p>UEGNSG605B; UEGNSG606B; UEGNSG607B; UEGNSG608B; UEGNSG609B; UEGNSG610B; UEGNSG613A; UEGNSG701B; UEGNSG702B; UEGNSG703B; UEGNSG704A; UEGNSG801B;</p> <p>Updated Imported Units BSBFLM312C; TLILIC2016B; TLILIC3017B; HLTAID001; HLTAID003; HLTAID005</p> <p>Removed Imported Units UEENEEE101A; UETTDREL15A</p> <p>Additional Imported Units BSBINM601A; BSBINN601B; BSBWHS303A; BSBWHS601A; BSBWHS602A; BSBWHS603A; CPPFES2005A; HLTHSE204D; MEM05004C; MEM05012C; MEM05015D; MEM05045B; MSAPMOHS110A; MSAPMOHS205A; MSAPMOHS216A; MSAPMOHS217A; MSAPMOPS400A; MSAPMPER200C; MSAPMPER201A; MSAPMPER202A; MSAPMPER300C; MSAPMPER400A; MSAPMSUP200A; MSAPMSUP210A; MSAPMSUP240A; MSAPMSUP303A; MSAPMSUP390A; MSS402061A; MSS402080A; PMAOHS211B; PMAOHS310B; PMAOHS311B; PMAOMIR210B; PMAOMIR346B; PMAOMIR407B; PMAOMIR418B; PMAOMIR430B; PMAOMIR444B; PMAOMIR512B; PMAOPS305B; PMAOPS312B; PMAOPS330B; PMAOPS402A; PMAOPS405A;</p>

Version	Release Date	Authorisation	Comments
			PMAOPS410B; PMASUP311A; PMASUP410B; PMASUP444A; PMBWELD301B; PMBWELD302B; PMC563081C; RIICCM205D; RIICCM206D; RIICCM207D; RIICCM208D; RIICCM210D; RIICRC208D; RIIMPO304D; RIIMPO320D; RIIOHS202D; RIIOHS204D; RIIOHS205D; RIIOHS302D; RIIRIS301D; RIISAM201D; RIWWMG203D; TLIB2004A; TLIC2002A; TLIC3003A; TLIC3004A; TLIC3005A; TLIC4006A; TLIC4067A; TLID2003A; TLID2010A; TLID2016A; TLID3015A; TLID3023A; TLID3027A; TLID3033A; TLID3036A; TLIF2006A; TLIF2010A; TLIF3063A; TLIF3093A; TLIF3096A; TLIF4007A; TLIF4065A; TLIF4066A; TLIF4094A; TLIL4059A; TLILIC2014B; TLILIC2015B; TLILIC3013A; TLILIC3018B; UEPMNT367A; UEPMNT368A; UEPOPS317B; UEPOPS336B; UEPOPS347B
1.1 UEG11	18 March 2013	ISC Upgrade	<p>Qualifications amended</p> <p>The following qualifications have been amended to include updated imported units, electives and editorial changes.</p> <p>UEG20211; UEG20311; UEG20411; UEG20511; UEG30211; UEG40311; UEG50211; UEG60211.</p> <p>The following imported units were added</p> <p>BSBWHS301A; CPCPCM4012A, HLTCPR211A</p>

Version	Release Date	Authorisation	Comments
			<p>The following imported units were updated</p> <p>BSBWOR301B; BSBCUS401B; BSBWHS501A; HLTF311A; HLTF302C; UEPOPS203B; UEPOPS205B; UEENEED101A; UEENEEE117A; UETTDREL14A; UETTDREL15A</p> <p>The following imported units were updated to the current release:</p> <p>UEENEED001B; UEENEEE101A; UEENEEE102A; UEENEEE107A; UEENEEM020A; UEENEEM076A; UEENEEM080A;</p>
<p>UEG11 Version 1</p>	<p>TBC</p>		<p>The following qualifications were added:</p> <p>UEG20211; UEG20311; UEG20411; UEG20511; UEG30211; UEG40311; UEG50211; UEG60211</p> <p>The following qualifications were deleted:</p> <p>UEG10106; UEG20106; UEG30110; UEG40106; UEG40206; UEG50106; UEG60106</p> <p>The following new units were added:</p> <p>UEGNSG003A; UEGNSG125A; UEGNSG128A; UEGNSG131A; UEGNSG212A; UEGNSG213A; UEGNSG214A; UEGNSG215A; UEGNSG320A; UEGNSG321A; UEGNSG322A; UEGNSG323A; UEGNSG324A; UEGNSG325A; UEGNSG326A; UEGNSG327A; UEGNSG328A; UEGNSG329A; UEGNSG613A; UEGNSG704A</p> <p>The following units were removed:</p> <p>UEGNSG001A; UEGNSG101A; UEGNSG103A; UEGNSG124A; UEGNSG201A; UEGNSG211A; UEGNSG303A; UEGNSG601A;</p>

Version	Release Date	Authorisation	Comments
			<p>UEGNSG802A;</p> <p>The following units were amended including editorial changes (see below)</p> <p>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; 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;</p> <p>The following imported units were added to UEG11 Version 1:</p> <p>BSBFLM305C; BSBFLM306C; BSBFLM309C; BSBFLM311C; BSBINN301A; BSBCUS401A; BSBINM401A; BSBLED401A;</p>

Version	Release Date	Authorisation	Comments
			<p>BSBMGT402A; BSBMGT403A; BSBWOR401A; BSBWOR402A; BSBWOR404A; BSBCUS501A; BSBINM501A; BSBINN502A; BSBLED501A; BSBMGT502A; BSBMGT515A; BSBMGT516C; BSBOHS509A; BSBWOR501B; BSBWOR502B; CPCCLDG3001A; CPC CIRG3001A; CPCCLRG3002A; CPCCOHS1001A; HLTF A301C; HLTF A302A; RIIMPO308A; RIIMPO309A; RIIMPO318A; RIIMPO319A; RIIHAN309A; TLIC2025A; TLILIC2016A; TLIF2012A; TLILIC3017A; TLILIC3006A; TLILIC0012A; TLILIC3008A; TLILIC4009A; UEPOPS203A; UEPOPS205A; UETTDREL04B; UETTDREL05B; UEENEEC001B; UEENEEED001B; UEENEEEE017B; UEENEEEE101A; UEENEEEE102A; UEENEE107A</p> <p>The following imported units were removed from UEG11 Version 1:</p> <p>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; UEENEEEE002B; UEENEEEE005B;</p>

Version	Release Date	Authorisation	Comments
			<p>UEENEEE007B; UEENEEE008B</p> <p>Editorial changes to Endorsed Units.</p> <p>Removal of spaces in any of the unit or qualification codes.</p> <p>Replace 'Version No in all footers across the whole Training Package.</p> <p>3. For all Units:</p> <p>Change all Unit suffixes for version 1 units from 'A' to 'B'</p> <p>Add '1.1 Descriptor' as a new title</p> <p>Move '3.1 License to practise' to position 1.2</p> <p>Move the sub-heading '2.1 Competencies' from the left hand column to the right hand column</p> <p>Move the sub-heading '2.2 Literacy and Numeracy skills' from the left hand column to the right hand column</p> <p>Include '3) Employability Skills' and text therein as a whole new section</p> <p>Revise the numbering of all subsequent sections to accommodate the inclusion of the Employability Skills section at 3)</p> <p>Include "All knowledge and skills</p>

Version	Release Date	Authorisation	Comments
			<p>detailed in this unit should be contextualised to current industry practices and technologies" as a new paragraph in '7) Required Skills and Knowledge'</p> <p>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).</p> <p>Completely remove the 'Key Competencies' and 'Skills Enabling Employment' sections.</p>
UEG06 Version 1.1	8 October 2010	EE-OzISC 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

Preliminary Information

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 National Vocational Education and Training Regulator (NVR) or Australian Quality Training Framework (AQTF) and Training Packages endorsed by the National Skills Standards Council (NSSC).

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 or the Standards for NVR Registered Training Organisations 2012.

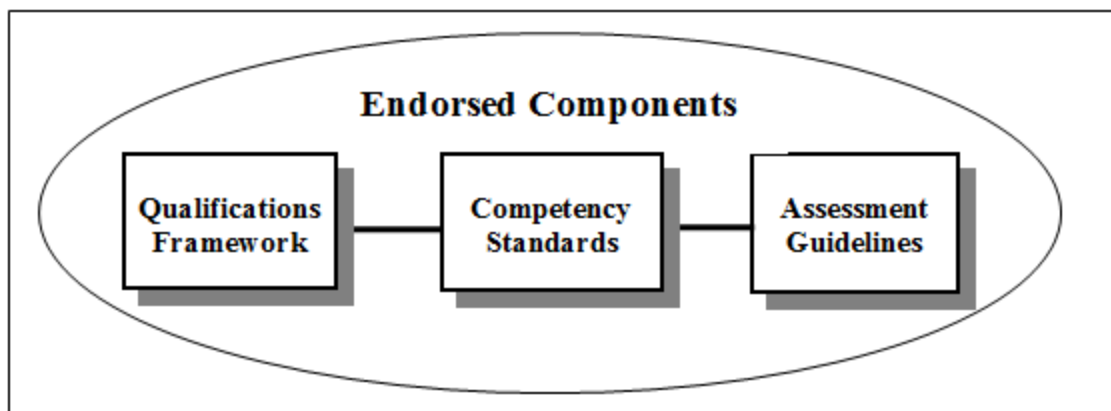
Training Package Components

Training Packages are made up of mandatory components endorsed by the NSSC 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.

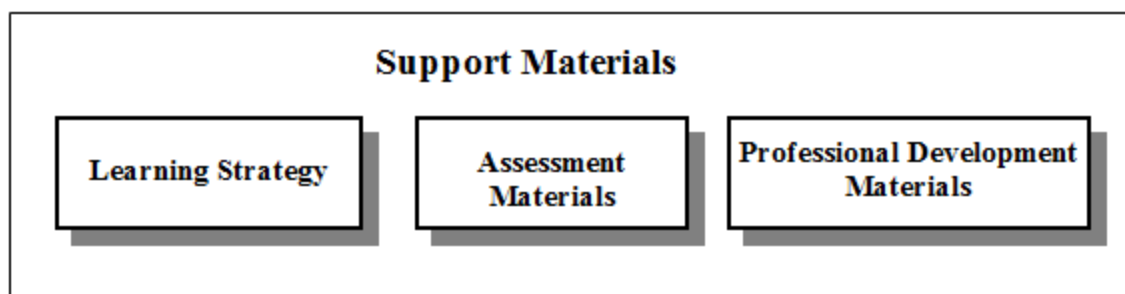
Assessment Guidelines

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 or the Standards for NVR Registered Training Organisations 2012. 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 assessors, private and commercial developers and Government agencies.

Where such materials have been quality assured through a process of 'noting' by the NSSC, they display the following official logo.



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:

Unit Number									
U	E	G	N	S	G				A
Industry — EE-Oz Training Standards identifier			Training Package identifier			Industry Streams: Numbers 000 to 999			Version
← 12 Characters Maximum →									

- 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 means 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 E-Oz Energy Skills Australia, with the support of the Department of Industry (DOI). E-Oz Energy Skills Australia 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 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 2**Table 1 — Qualifications Mapping of this Training Package UEG11 -Version 2.0 to the former Training Package UEG11-Version 1.1**

AQF Code	Certificate II Qualifications (UEG11 V2.0)	Certificate II Qualifications (UEG11 – V1.0)	E = Equivalent N = Not Equivalent
UEG20114	Certificate II in Gas Supply Industry Operations	UEG20211 – Certificate II in Gas Industry Pipeline Operations	N
UEG20114	Certificate II in Gas Supply Industry Operations	UEG20311 - Certificate II in Gas Industry Transmission Pipeline Construction	N
UEG20114	Certificate II in Gas Supply Industry Operations	UEG20411 - Certificate II in Gas Industry Cylinder Operations	N
UEG20114	Certificate II in Gas Supply Industry Operations	UEG20511 - Certificate II in Gaseous Fuel Delivery Operations	N

AQF Code	Certificate III Qualifications (UEG11 V2.0)	Certificate III Qualifications (UEG11 – V1.0)	E = Equivalent N = Not Equivalent
UEG30114	Certificate III in Gas Supply Industry Operations	UEG30211 - Certificate III in Gas Supply Industry Operations	N

AQF Code	Certificate IV Qualifications (UEG11 V2.0)	Certificate IV Qualifications (UEG11 – V1.0)	E = Equivalent N = Not Equivalent
UEG40114	Certificate IV in Gas Supply Industry Operations	UEG40311 - Certificate IV in Gas Supply Industry Operations	N

AQF Code	Diploma Qualifications (UEG11 V2.0)	Diploma Qualifications (UEG11 – V1.0)	E = Equivalent N = Not Equivalent
UEG50114	Diploma of Gas Supply Industry Operations	UEG50211 - Diploma of Gas Supply Industry Operations	N

AQF Code	Advanced Diploma Qualifications (UEG11 V2.0)	Advanced Diploma Qualifications (UEG11 – V1.0)	E = Equivalent N = Not Equivalent
UEG60114	Advanced Diploma of Gas Supply Industry Operations	UEG60211 - Advanced Diploma of Gas Supply Industry Operations	N

Table 2 AQF qualifications in this Training Package

AQF	Qualification Code	Qualification Title
2	UEG20114	Certificate II in Gas Supply Industry Operations

3	UEG30114	Certificate III in Gas Supply Industry Operations
4	UEG40114	Certificate IV in Gas Supply Industry Operations
5	UEG50114	Diploma of Gas Supply Industry Operations
6	UEG60114	Advanced Diploma of Gas Supply Industry Operations

Table 3 — Qualifications Mapping of this Training Package UEG11 -Version 2.0 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 Industry Operations	N

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

AQF Code	Certificate II Qualifications (UEG11)	Certificate II Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
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
	Deleted	UEG40206 Certificate IV in Gas Industry Transmission	N

AQF Code	Certificate IV Qualifications (UEG11)	Certificate IV Qualifications (UEG06 – V1.1)	E = Equivalent N = Not Equivalent
		Pipeline	
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 4 — 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 Industry Operations	Modification of UEG30106 comply with NQC Packaging Rules.	E

Table 5 — 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 Industry Operations	Update of the previous Diploma of Gas Industry Operations, with a new structure and units.	No 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 2 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 6 – UEG11 Gas Industry Training Package - Competency Standard Units

Discipline Identifier	Unit Discipline	Series	No. of CSUs
A	Independent Discipline Unit	000	3
B	Cross Discipline Common Unit	100	28
C	Distribution Discipline	200	19
D	Transmission Discipline	300	27
E	Cathodic Protection Discipline	400	2
F	Control Centre Discipline	500	8
G	Liquefied Petroleum Gas (LPG) Discipline	600	11
H	Support Services Discipline	700	7
I	Pressure Control Discipline	800	5
Total CSUs			110

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 7 - Imported Units of Competency in the UEG11 Gas Industry Training Package Version 2

Training Package	Training Package Title	Version	No. of Units
BSB07	Business Services Training Package	9.0	33
CPC08	Construction, Plumbing and Services Training Package	8.0	5
CPP07	Property Services Training Package	13.0	1
HLT	Health Training Package	5.1	4
MEM05	Metal and Engineering Training Package	10.1	4
MSA07	Manufacturing Training Package	8.2	15
MSS11	Sustainability Training Package	2.1	2
PMA08	Chemical, Hydrocarbons and Refining Training Package	4.0	19
PMB07	Plastics, Rubber and Cablemaking Training Package	2.0	2
PMC10	Manufactured Mineral Products	1.0	1
RII	Resources and Infrastructure Industry Training Package	3.2	20

TLI10	Transport and Logistics Training Package	3.0	38
UEE11	Electrotechnology Training Package	1.3	8
UEP12	Electricity Supply Industry - Generation Sector Training Package	2.1	7
UET12	Electricity Supply Industry - Transmission, Distribution and Rail Sector Training Package	2.0	1
Total Imported CSUs			160

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 their 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 E-Oz Energy Skills Australia 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 E-Oz Energy Skills Australia 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.
-

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

Preliminary Information

Definitions/Glossary

Competency Standards

Competency Standard Units

Independent Units

Cross Discipline Common Units

Distribution Discipline

Transmission Discipline

Cathodic Protection Discipline

Control Centre Discipline

Liquefied Petroleum Gas (LPG) Discipline

Support Services Discipline

Pressure Control Discipline

Imported Units

Essential Knowledge and Associated Skills

Language, Literacy, Numeracy and Employability Skills

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 2 – check whether this is the latest version by going to www.training.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 E-Oz Energy Skills Australia <http://www.e-oz.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 2. 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/wp-content/uploads/2013/05/AQF-2nd-Edition-January-2013.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 or the Standards for NVR Registered Training Organisations 2012.

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 or the Standards for NVR Registered Training Organisations 2012.

Under the AQTF 2010 or the Standards for NVR Registered Training Organisations 2012, 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 selection 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, E-Oz Energy Skills Australia 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) or National Vocational Education and Training Regulator (NVR) 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 Skills Standards Council's (NSSC) Training Package Development Handbook Guidelines

Qualifications Framework 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.nssc.natese.gov.au/__data/assets/pdf_file/0017/71243/GuidelinesQualFramework.pdf

It should be noted that under these provisions Licensed and trade occupations are exempt from these measures.

Application of the NSSC 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 NSSC 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 or National Vocational Education and Training Regulator 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 E-Oz Energy Skills Australia. Advice on the valuation of units selected for importation from sources other than E-Oz Training Packages shall be sought from the relevant E-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 E-Oz Energy Skills Australia 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:

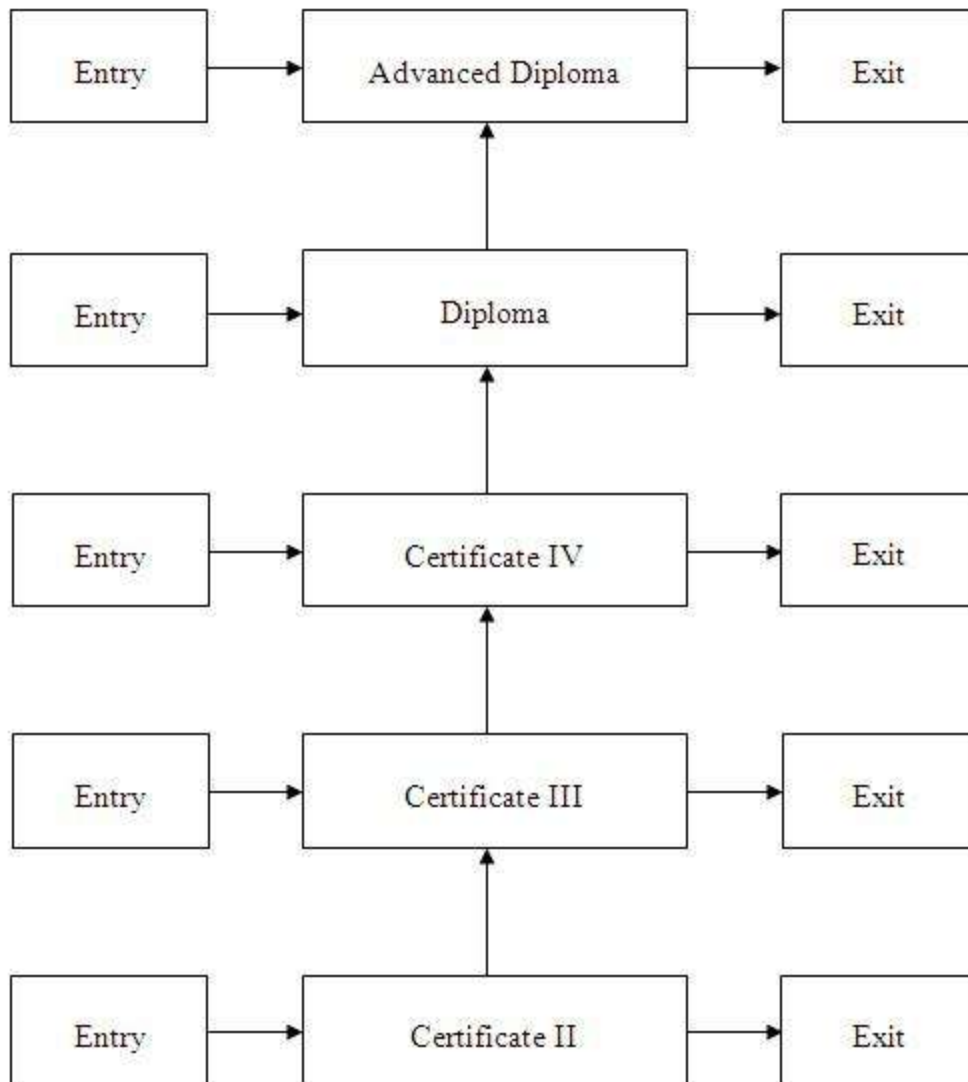
- Modifications History of Qualifications in this Training Package
- Mapping of the qualifications in this version of the Gas Industry Training Package to previous versions, including equivalences.

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 E-Oz Energy Skills Australia at www.e-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 E-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. These 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 an 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 an 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 an 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 an 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, Section 1.3.00.

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 Section 1.2.03 — Competency Standards, Unit Construction.

UEG20114 Certificate II in Gas Supply Industry Operations

Description and scope of the qualification

This qualification provides competencies for entry level gas supply industry activities in transmission, distribution pipeline and cylinder operations and functions as outline below:

- Distribution pipeline activities include laying 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 control centres.
- Transmission pipeline activities include right of way preparation, rigging operations, hydrotesting, laying pipelines, operating transmission pipeline construction plant and equipment and conducting minor mechanical maintenance.
- Gas cylinder operations for domestic and industrial supply of gaseous fuels include 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
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.

UEG30114 Certificate III in Gas Supply Industry Operations

Description and scope of the qualification

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

UEG40114 Certificate IV in Gas Supply Industry Operations

Description and scope of the qualification

This qualification provides competencies to supervise and conduct Gas Supply Industry activities including installation, diagnostics and maintenance of distribution and transmission gas pipelines, cylinders 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.

UEG50114 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.

UEG60114 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	Group F	

UEG20114	Certificate II in Gas Industry Operations	120	240	0-60	180-240				
UEG30114	Certificate III in Gas Supply Industry Operations	300	660	0-160	0-180	330-660	0-130		
UEG40114	Certificate IV in Gas Supply Industry Operations	290	990	0-220	0-180	0-670	200-990		
UEG50114	Diploma of Gas Supply Industry Operations	280	1260	0-260	0-180	330-670	300-810	180-340	
UEG60114	Advanced Diploma of Gas Supply Industry Operations	400	1760	0-360	0-180	330-670	300-810	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 2013 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment. See:

<http://www.aqf.edu.au/wp-content/uploads/2013/05/AQF-2nd-Edition-January-2013.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 E-Oz Energy Skills Australia 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 E-Oz Energy Skills Australia. Also refer to Section 1.1.01 — Gas Industry Qualifications Framework.

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 Section 1.3.00 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 Section 1.1.00 — 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, E-Oz Energy Skills Australia 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) or the National Vocational Education and Training Regulator (NVR) 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 Accreditation and Registration Council	www.det.act.gov.au/vhe/accreditation_and_registration	02 6205 7091
New South Wales	Vocational Education and Training Accreditation Board, NSW	http://www.service.nsw.gov.au/nswgovdirectory/vocational-education-and-training-accreditation-board-nsw	13 77 88
Northern Territory	NT Department of Education and Training	www.det.nt.gov.au/rto	08 8901 1339
Queensland	QLD Training and Employment Recognition Council	www.training.qld.gov.au/registration	(07) 3237 9959; (07) 3222 2775
South Australia	SA Training and Skills Commission	www.training.sa.gov.au	08 8226 4359
Tasmania	Tasmanian Qualifications Authority (TQA)	www.tqa.tas.gov.au	03 6233 6354
Victoria	Victorian Registration and Qualifications Authority (VRQA)	www.vrqa.vic.gov.au	03 9637 2806
Western Australia	WA Training Accreditation Council	www.tac.wa.gov.au	08 9441 1910

Other Bodies

Organisation	Website
Standards Australia	www.standards.org.au

Department of Industry	http://www.innovation.gov.au/industry/Pages/default.aspx
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 E-Oz Energy Skills Australia or its successor.
- Suggestions and proposals for changes from all parties are welcomed. These should be documented and submitted to E-Oz Energy Skills Australia 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)
Required Skills and Knowledge	Modify activities depending on differing workplace contexts, risk situations and environments. (Learning) 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	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG004A	Locate, prove and protect utility assets	60	2	UEGNSG141A, UEGNSG005A, UEGNSG132A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG005A	Prepare to work in the gas industry	20	2	Nil	UEG20114; UEG30114; UEG40114; UEG50114; UEG60114	
UEGNSG006A	Use a portable gas detector to locate escape	40	2	UEGNSG141A, UEGNSG005A, UEGNSG132A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114

B - Cross Discipline Common Units (100)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG106B	Coordinate repair of pipeline, facilities and	110	4	Nil		UEG40114; UEG50114;

	equipment					UEG60114
UEGNSG108B	Operate and monitor pipeline control systems	60	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG109B	Control field pipeline operations	60	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG110B	Supervise technical operations for gas distribution or transmission	60	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG111B	Produce maintenance strategies and plans for a gas facility	80	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG113B	Manage a utilities industry OHS management system	80	5	Nil	UEG50114; UEG60114	
UEGNSG114B	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	100	5	Nil		UEG50114; UEG60114
UEGNSG115B	Manage gas systems projects	80	5	Nil		UEG50114; UEG60114
UEGNSG116B	Manage Gas Industry Physical Resources	80	5	Nil		UEG50114; UEG60114

UEGNSG117B	Plan and implement the data acquisition and metering requirements of a gas system	120	6	Nil		UEG60114
UEGNSG118B	Select and commission equipment to meet pressure and temperature control specifications	120	6	Nil		UEG60114
UEGNSG119B	Manage workplace risk in a gas industry facility	60	6	Nil		UEG60114
UEGNSG120B	Manage gas system environmental compliance	60	5	Nil	UEG50114; UEG60114	
UEGNSG121B	Prepare safe design specifications of a gas system	120	6	Nil		UEG60114
UEGNSG122B	Manage a customer service gas business unit	120	6	Nil		UEG60114
UEGNSG123B	Manage financial resources in a gas industry facility	120	6	Nil	UEG60114	
UEGNSG131A	Compile a gas industry technical report	20	4	Nil		UEG40114; UEG50114; UEG60114

UEGNSG132A	Carry out basic work activities in a gas industry work environment	60	2	UEGNSG141A, UEGNSG005A	UEG20114; UEG30114; UEG40114; UEG50114; UEG60114	
UEGNSG133A	Comply with environmental policies and procedures in the utilities industry	40	3	UEGNSG141A, UEGNSG005A	UEG30114; UEG40114; UEG50114; UEG60114	
UEGNSG134A	Establish a utilities infrastructure work site	60	2	UEGNSG141A, UEGNSG005A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG135A	Monitor and control gas odourisation	100	3	UEGNSG141A, UEGNSG005A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG136A	Carry out transmission pipeline construction work activities	60	2	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG137A	Operate and Maintain Gas Station Water Bath Heaters	60	3	UEGNSG141A, UEGNSG005A,		UEG30114; UEG40114;

				UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG50114; UEG60114
UEGNSG138A	Install and commission stationary gas fuelled turbine engines	60	3	UEGNSG005A & UEGNSG141A or CPCCOHS1001A & HLTAID001		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG139A	Repair and maintain stationary gas fuelled turbine engines	60	3	UEGNSG005A & UEGNSG141A or CPCCOHS1001A & HLTAID001		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG140A	Apply environmental policies and procedures in the utilities industry	20	2	UEGNSG141A, UEGNSG005A	UEG20114;	UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG141A	Apply Workplace Health and Safety regulations, codes and practices in the gas supply industry	20	2	Nil	UEG20114; UEG30114; UEG40114; UEG50114; UEG60114	
UEGNSG142A	Conduct isolations under the permit to work system for gas industry work sites	80	3	UEGNSG005A, MSAPMOHS217A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114

C - Distribution Discipline (200)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG204B	Coordinate and conduct gas distribution pipeline repair and modifications	110	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG207B	Coordinate construction, laying and testing of gas distribution pipelines	110	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG210B	Supervise and monitor contract staff for work on distribution pipelines	120	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG212B	Construct, lay and connect a gas distribution service to a plastic main	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG213B	Construct, lay and connect a gas distribution service to a steel main	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG216A	Commission or decommission gas	100	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A,		UEG30114; UEG40114; UEG50114;

	distribution pipelines			UEGNSG140A; UEGNSG006A		UEG60114
UEGNSG217A	Launch and recover PIGs in a gas distribution pipeline	100	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG218A	Carry out surveillance on gas distribution assets	90	3	UEGNSG141A, UEGNSG005A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG219A	Conduct excavations in the utilities industry	60	2	UEGNSG141A, UEGNSG004A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG220A	Construct and lay Polyethylene gas distribution mains	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114

UEGNSG221A	First on site response to gas pipeline emergencies	90	2	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A, HLT AID003, CPPFES2005A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG222A	Construct and lay nylon or PVC gas distribution mains	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG223A	Construct and lay steel gas distribution pipelines	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG224A	Construct and lay copper and stainless steel gas distribution pipelines	60	2	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A'		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG225A	Perform routine maintenance on distribution pipeline facilities and equipment	100	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG006A		UEG30114; UEG40114; UEG50114; UEG60114

UEGNSG226A	Assist with the construction, laying and connection of gas distribution services to mains	40	2	UEGNSG141A, UEGNSG005A, UEGNSG132A	UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG227A	Assist with the construction and laying of gas distribution mains	40	2	UEGNSG141A, UEGNSG005A, UEGNSG132A	UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG228A	Construct and lay large copper gas distribution pipelines	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A	UEG30114; UEG40114, UEG50114; UEG60114
UEGNSG229A	Prepare simple drawings of as laid gas mains and services	40	3	Common Unit Group; UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, Plastic Main Services Pathway; UEGNSG212B Steel Main Service Pathway; UEGNSG213B Polyethylene Mains Pathway; UEGNSG222A Nylon or PVC Mains Pathway; UEGNSG222A	UEG30114; UEG40114, UEG50114; UEG60114

				Steel Mains Pathway; UEGNSG223A		
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D - Transmission Discipline (300)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG305B	Coordinate gas transmission pipeline repair and modifications	110	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG308B	Identify, evaluate and control threats to transmission pipelines	40	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG310B	Supervise and monitor contract work	60	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline	80	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG314B	Liaise with third party and the community to maintain pipeline integrity and community safety	40	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG319B	Custody transfer metering	80	4	Nil		UEG40114;

	and gas quality analysis					UEG50114; UEG60114
UEGNSG324A	Follow company procedures to deal with incidents related to the abuse of drugs and alcohol	60	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG325A	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	80	4	UEGNSG328A or UEGNSG348A plus its pre-req's		UEG40114; UEG50114; UEG60114
UEGNSG326A	Coordinate and monitor staff and contractors	60	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG327A	Coordinate transmission pipeline construction operations	60	4	UEGNSG320A, UEGNSG328A or UEGNSG331A, UEGNSG348A plus their pre-req's		UEG40114; UEG50114; UEG60114
UEGNSG330A	Coat metallic pipelines	80	2	UEGNSG141A, UEGNSG005A, UEGNSG132A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG331A	Establish right of way access for transmission pipeline	60	2	UEGNSG141A, UEGNSG005A		UEG20114; UEG30114;

	construction					UEG40114; UEG50114; UEG60114
UEGNSG332A	Undertake hydro-testing for transmission pipeline construction	60	2	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG333A	Work in proximity of transmission pipeline construction plant and equipment	40	2	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG20114; UEG30114; UEG40114, UEG50114; UEG60114
UEGNSG342A	Maintain pipeline easements	40	2	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A		UEG20114; UEG30114; UEG40114, UEG50114; UEG60114
UEGNSG344A	Commission or decommission gas transmission pipelines	120	3	UEGNSG141A, UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG134A, UEGNSG140A,		UEG30114; UEG40114, UEG50114; UEG60114

UEGNSG346A	Launch and recover PIGs in gas transmission pipelines	100	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG347A	Perform routine maintenance on transmission pipeline facilities and equipment	110	3	UEGNSG141A, UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG348A	Supervise the operation of plant and equipment for the construction of gas transmission pipelines	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A, UEGNSG004A, UEGNSG006A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG349A	Carry out surveillance of gas transmission pipelines	110	3	UEGNSG141A, UEGNSG005A, UEGNSG140A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG350A	First response to a gas facility event	60	3	UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A, HLTAID003, CPPFES2005A		UEG30114; UEG40114; UEG50114; UEG60114

UEGNSG352A	Check and report on gas station conditions	40	3	UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG353A	Carry out aerial surveillance of gas transmission pipelines	60	3	UEGNSG005A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG354A	Control excavations in the vicinity of gas transmission pipelines	60	3	UEGNSG004A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG355A	Monitor and report on cathodic protection systems	60	3	UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG356A	Monitor and operate flow control, pressure measuring and regulating devices for gas transmission	100	3	UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114

E - Cathodic Protection Discipline (400)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG411A	Maintain cathodic protection systems	110	3	UEGNSG141A, UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG412A	Install cathodic protection systems	110	3	UEGNSG141A, UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG30114; UEG40114; UEG50114; UEG60114

F - Control Centre Discipline (500)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG506A	Respond to Gas Infrastructure Emergencies	80	3	UEGNSG141A; UEGNSG005A; UEGNSG132A; UEGNSG140A; HLTAID003		UEG30114; UEG50114.
UEGNSG507A	Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices	90	3	UEGNSG005A; UEGNSG132A; UEGNSG140A; UEGNSG141A; MSS402061A.		UEG30114; UEG50114.

UEGNSG508A	Remotely check and report on gas station conditions	40	3	MSS402061A; UEGNSG005A; UEGNSG132A; UEGNSG140A; UEGNSG141A.		UEG30114; UEG50114.
UEGNSG511A	Operate gas infrastructure to meet nominated demand	120	4	Common Group Units UEGNSG005A UEGNSG132A UEGNSG133A UEGNSG141A Distribution Pathway UEGNSG216A UEGNSG134A Transmission Pathway UEGNSG344A UEGNSG006A UEGNSG134A Controller Pathway UEGNSG507A MSS402061A		UEG40114, UEG50114; UEG60114

UEGNSG512A	Control centre communication with gas industry stakeholders	110	4	Common Group Units UEGNSG005A UEGNSG132A UEGNSG133A UEGNSG141A Distribution Pathway UEGNSG216A UEGNSG134A Transmission Pathway UEGNSG344A UEGNSG006A UEGNSG134A Controller Pathway UEPOPS203B		UEG40114, UEG50114; UEG60114
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UEGNSG513A	Manage emergencies and critical incidents for gas infrastructure	120	5	Common Group Units UEGNSG005A UEGNSG132A UEGNSG133A UEGNSG141A Distribution Pathway UEGNSG216A UEGNSG134A Transmission Pathway UEGNSG344A UEGNSG006A UEGNSG134A Controller Pathway UEGNSG506A HLTAID003		UEG50114; UEG60114
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UEGNSG514A	Managing and Controlling Field Activities	110	4	Common Unit Group UEGNSG005A UEGNSG132A UEGNSG133A UEGNSG141A Distribution Pathway UEGNSG216A UEGNSG134A Transmission Pathway UEGNSG344A UEGNSG006A UEGNSG134A Controller Pathway UEPOPS203B		UEG40114; UEG50114; UEG60114
UEGNSG515A	Use control centre systems to monitor and control gas infrastructure	110	4	Common Unit Group UEGNSG005A UEGNSG132A UEGNSG133A UEGNSG141A Distribution Pathway UEGNSG216A		UEG40114; UEG50114; UEG60114

				UEGNSG134A Transmission Pathway UEGNSG344A UEGNSG006A UEGNSG134A Controller Pathway UEGNSG507A, MSS402061A		
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G - Gaseous Fuel Vessels Discipline (600)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG611B	Control LPG storage/processing operations	110	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG612B	Supervise technical operations for liquefied petroleum gas storage and processing	120	4	Nil		UEG40114; UEG50114; UEG60114
UEGNSG614A	Load, unload, exchange and connect LPG cylinders	80	3	UEGNSG141A, UEGNSG005A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG615A	Fill LPG cylinders	80	2	UEGNSG141A, UEGNSG005A		UEG20114; UEG30114;

						UEG40114; UEG50114; UEG60114
UEGNSG616A	Refurbish gas cylinders	80	2	UEGNSG141A, UEGNSG005A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG617A	Monitor and control the transfer of bulk LPG	100	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG618A	Process Liquefied Petroleum Gas (LPG)	100	3	UEGNSG617A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A,		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG619A	Perform scheduled maintenance on gas processing or storage facilities and equipment	110	3	Relevant Cert III plus UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG140A, UEGNSG134A,		UEG30114; UEG40114; UEG50114; UEG60114

UEGNSG620A	Organise the repair of faults in LPG processing or storage facilities and equipment	80	3	UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG621A	Control bulk storage of LPG	80	3	UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A,		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG622A	Assess the operational capability of gas safety equipment on a delivery vehicle	40	3	UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG140A, UEGNSG134A		UEG30114; UEG40114; UEG50114; UEG60114

H - Support Services Discipline (700)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG705A	Disconnect and reconnect small capacity gas meters	40	2	UEGNSG141A, UEGNSG005A, UEGNSG132A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG706A	Test New Residential and Small Commercial Gas Installations	60	3	UEGNSG141A, UEGNSG005A, UEGNSG132A		UEG30114; UEG40114; UEG50114; UEG60114

UEGNSG708A	Pressure Test Residential and Small Commercial Gas Installations	40	2	UEGNSG141A, UEGNSG005A, UEGNSG132A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG711A	Process meter reading information using appropriate technology	40	2	UEGNSG141A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG712A	Read and record meter readings	40	2	UEGNSG141A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG713A	Investigate billing exceptions-conditions	60	3	UEGNSG141A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG714A	Relight Type A gas appliances	60	2	UEGNSG141A, UEGNSG005A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114

I - Pressure Control Discipline (800)

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEGNSG804A	Maintain Single Stage and Single Run Gas Flow and Pressure Control and Measuring Devices	80	2	UEGNSG006A, UEGNSG141A, UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A		UEG20114; UEG30114; UEG40114; UEG50114;

						UEG60114
UEGNSG805A	Maintain Multi-Stage and Multi-Run Gas Flow and Pressure Measuring and Regulating Devices	80	3	UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A, UEGNSG804A		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG806A	Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment	100	4	UEGNSG005A, UEGNSG006A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A, UEGNSG804A UEGNSG805A		UEG40114; UEG50114; UEG60114
UEGNSG807A	Install Gas Flow, Measuring and Pressure Regulating Devices	80	3	UEGNSG005A; UEGNSG006A; UEGNSG132A; UEGNSG134A; UEGNSG140A; UEGNSG141A;		UEG30114; UEG40114; UEG50114; UEG60114
UEGNSG811A	Monitor and operate complex flow control, measuring and regulating	110	3	UEGNSG005A, UEGNSG132A, UEGNSG134A, UEGNSG140A, UEGNSG141A		UEG30114; UEG40114; UEG50114;

	devices for gas distribution					UEG60114
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Index 2 - Imported Units

BSB07 Business Services Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
BSBCUS401B	Coordinate implementation of customer service strategies	40	4	Nil		UEG40114
BSBCUS501C	Manage quality customer service	40	5	Nil		UEG50114; UEG60114
BSBFLM303C	Contribute to effective workplace relationships	40	3	Nil	UEG30114	UEG40114
BSBFLM305C	Support operational plan	40	3	Nil		UEG30114; UEG40114
BSBFLM306C	Provide workplace information and resourcing plans	40	3	Nil		UEG30114; UEG40114
BSBFLM309C	Support continuous improvement systems and processes	40	3	Nil		UEG30114; UEG40114; UEG50114; UEG60114
BSBFLM311C	Support a workplace learning environment	40	3	Nil		UEG30114; UEG40114

BSBFLM312C	Contribute to team effectiveness	40	3	Nil	UEG30114	UEG40114
BSBINM401A	Implement workplace information system	40	4	Nil		UEG40114
BSBINM501A	Manage an information or knowledge management system	50	5	Nil		UEG50114; UEG60114
BSBINM601A	Manage knowledge and information	80	6	Nil		UEG60114
BSBINN301A	Promote innovation in a team environment	40	3	Nil		UEG30114; UEG40114
BSBINN502A	Build and sustain an innovative work environment	50	5	Nil		UEG50114; UEG60114
BSBINN601B	Manage organisational change	60	6	Nil		UEG60114
BSBLED401A	Develop teams and individuals	40	4	Nil		UEG40114
BSBLED501A	Develop a workplace learning environment	60	5	Nil		UEG50114; UEG60114
BSBMGT402A	Implement operational plan	40	4	Nil	UEG40114	
BSBMGT403A	Implement continuous improvement	40	4	Nil		UEG40114
BSBMGT502B	Manage people performance	70	5	Nil		UEG40114
BSBMGT515A	Manage operational plan	60	5	Nil		UEG50114; UEG60114

BSBMGT516C	Facilitate continuous improvement	60	5	Nil		UEG50114; UEG60114
BSBWHS301A	Maintain workplace safety	40	3	Nil	UEG30114	UEG40114
BSBWHS303A	Participate in WHS hazard identification, risk assessment and risk control	50	3	Nil		UEG30114; UEG40114
BSBWHS501A	Ensure a safe workplace	60	5	Nil		UEG50114; UEG60114
BSBWHS601A	Apply legislative frameworks for WHS	40	6	Nil		UEG60114
BSBWHS602A	Facilitate WHS activities	50	6	Nil		UEG60114
BSBWHS603A	Implement WHS risk management	50	6	Nil		UEG60114
BSBWOR301B	Organise personal work priorities and development	40	3	Nil	UEG30114	UEG40114
BSBWOR401A	Establish effective workplace relationships	50	4	Nil		UEG40114
BSBWOR402A	Promote team effectiveness	50	4	Nil	UEG40114	
BSBWOR404B	Develop work priorities	40	4	Nil	UEG40114	
BSBWOR501B	Manage personal work priorities and professional development	60	5	Nil		UEG50114; UEG60114
BSBWOR502B	Ensure team effectiveness	60	5	Nil		UEG50114; UEG60114

CPC08 Construction, Plumbing and Services Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
CPCCLDG3001A	Licence to perform dogging	30	3	Nil		UEG20114; UEG30114; UEG40114
CPCCLRG3001A	Licence to perform rigging basic level	40	3	CPCCLDG3001A		UEG20114; UEG30114; UEG40114
CPCCLRG3002A	Licence to perform rigging intermediate level	40	3	CPCCLRG3001A		UEG30114; UEG40114
CPCCOHS1001A	Work safely in the construction industry	10	1	Nil		UEG20114; UEG30114; UEG40114
CPCPCM4012A	Estimate and cost work	40	4	Nil		UEG40114

CPP07 Property Services Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
CPPFES2005A	Demonstrate first attack firefighting equipment	15	2	Nil		UEG20114; UEG30114; UEG40114

HLT Health Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
HLTAID001	Provide cardiopulmonary resuscitation	10	2	Nil		UEG20114; UEG30114; UEG40114
HLTAID003	Provide first aid	10	3	Nil		UEG20114; UEG30114; UEG40114
HLTAID005	Provide first aid in remote situations	10	3	Nil		UEG20114; UEG30114; UEG40114
HLTHSE204D	Follow safe manual handling practices	20	2	Nil		UEG20114; UEG30114; UEG40114

MEM05 Metal and Engineering Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
MEM05004C	Perform routine oxy acetylene welding	20	2	Nil		UEG20114; UEG30114; UEG40114
MEM05012C	Perform routine manual metal arc welding	20	2	Nil		UEG20114; UEG30114; UEG40114
MEM05015D	Weld using manual metal arc welding process	40	3			UEG30114; UEG40114
MEM05045B	Perform pipe welds to code standards	60	4			UEG40114

	using manual metal arc welding process					
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MSA07 Manufacturing Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
MSAPMOHS110A	Follow emergency response procedures	20	1	Nil		UEG20114; UEG30114; UEG40114
MSAPMOHS205A	Control minor incidents	30	2	Nil		UEG20114; UEG30114; UEG40114
MSAPMOHS216A	Operate breathing apparatus	20	2	Nil		UEG20114; UEG30114; UEG40114
MSAPMOHS217A	Gas test atmospheres	30	2	Nil		UEG20114; UEG30114; UEG40114
MSAPMOPS400A	Optimise process/plant area	60	4	MSAPMSUP390A		UEG40114
MSAPMPER200C	Work in accordance with an issued permit	20	2	Nil		UEG20114; UEG30114; UEG40114
MSAPMPER201A	Monitor and control work permits	20	2	Nil		UEG20114; UEG30114; UEG40114
MSAPMPER202A	Observe permit work	20	2	Nil		UEG20114; UEG30114; UEG40114

MSAPMPER300C	Issue work permits	20	3	RIIRIS201A		UEG30114; UEG40114
MSAPMPER400A	Coordinate permit process	30	4	MSAPMPER300C		UEG30114; UEG40114
MSAPMSUP200A	Achieve work outcomes	30	2	Nil		UEG30114; UEG40114
MSAPMSUP210A	Process and record information	30	2	Nil		UEG20114; UEG30114; UEG40114
MSAPMSUP240A	Undertake minor maintenance	30	2	Nil		UEG20114; UEG30114; UEG40114
MSAPMSUP303A	Identify equipment faults	40	3	Nil		UEG30114; UEG40114
MSAPMSUP390A	Use structured problem solving tools	40	3	Nil		UEG30114; UEG40114

MSS11 Sustainability Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
MSS402061A	Use SCADA systems in operations	30	2	Nil		UEG20114; UEG30114; UEG40114
MSS402080A	Undertake root cause analysis	50	3	Nil		UEG30114; UEG40114

PMA08 Chemical, Hydrocarbons and Refining Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
PMAOHS211B	Prepare equipment for emergency response	20	2	Nil		UEG20114; UEG30114; UEG40114
PMAOHS310B	Investigate incidents	30	3	Nil		UEG30114; UEG40114
PMAOHS311B	Lead emergency teams	20	3	Nil		UEG30114; UEG40114
PMAOMIR210B	Control evacuation to muster point	20	2	Nil		UEG20114; UEG30114; UEG40114
PMAOMIR346B	Assess and secure an incident site	30	3	Nil		UEG30114; UEG40114
PMAOMIR407B	Audit incident preparedness and established response systems	80	4	Nil		UEG40114
PMAOMIR418B	Coordinate incident response	40	4	Nil		UEG40114
PMAOMIR430B	Conduct and assess incident exercises	35	4	Nil		UEG40114
PMAOMIR444B	Develop incident containment tactics	40	4	Nil		UEG40114

PMAOMIR512B	Establish incident response preparedness and response systems	70	5	Nil		UEG50114; UEG60114
PMAOPS305B	Operate process control systems	60	3	Nil		UEG30114
PMAOPS312B	Undertake ship loading/unloading operations	40	3	Nil		UEG30114; UEG40114
PMAOPS330B	Communicate and monitor pipeline activities	40	3	Nil		UEG30114; UEG40114
PMAOPS402A	Respond to abnormal process situations	50	4	MSAPMSUP390A		UEG40114
PMAOPS405A	Operate complex control systems	80	4	Nil		UEG40114
PMAOPS410B	Monitor remote production facilities	40	4	Nil		UEG40114
PMASUP311A	Operate communications hub	40	4	Nil		UEG40114
PMASUP410B	Develop plant documentation	30	4	Nil		UEG40114
PMASUP444A	Plan plant preparation and isolation	50	4	Nil		UEG40114

PMB07 Plastics, Rubber and Cablemaking Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
PMBWELD301B	Butt weld polyethylene plastic	20	3	Nil		UEG30114;

	pipelines					UEG40114
PMBWELD302B	Electrofusion weld polyethylene pipelines	20	3	Nil		UEG30114; UEG40114

PMC10 Manufactured Mineral Products

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
PMC563081C	Carry out stock control	20	3	Nil		UEG30114; UEG40114

RII Resources and Infrastructure Industry Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
RIICCM205D	Carry out manual excavation	10	2	Nil		UEG20114; UEG30114; UEG40114
RIICCM206D	Support plant operations	10	2	Nil		UEG20114; UEG30114; UEG40114
RIICCM207D	Spread and compact materials manually	10	2	Nil		UEG20114; UEG30114; UEG40114
RIICCM208D	Carry out basic levelling	10	2	Nil		UEG20114; UEG30114;

						UEG40114
RIICCM210D	Install trench support	15	2	Nil		UEG20114; UEG30114; UEG40114
RIICRC208D	Lay pipes	40	2	Nil		UEG20114; UEG30114; UEG40114
RIIHAN309D	Conduct telescopic materials handler operations	80	3	Nil		UEG30114; UEG40114
RIIMPO304D	Conduct wheel loader operations	40	3	Nil		UEG30114
RIIMPO308D	Conduct tracked dozer operations	40	3	Nil		UEG20114; UEG30114; UEG40114
RIIMPO309D	Conduct wheeled dozer operations	40	3	Nil		UEG30114; UEG40114
RIIMPO318D	Conduct civil construction skid steer loader operations	70	3	Nil		UEG20114; UEG30114; UEG40114
RIIMPO319D	Conduct backhoe/loader operations	50	3	Nil		UEG30114; UEG40114
RIIMPO320D	Conduct civil construction excavator operations	80	3	Nil		UEG30114; UEG40114

RIIWHS202D	Enter and work in confined spaces	30	2	Nil		UEG20114; UEG30114; UEG40114
RIIWHS204D	Work safely at heights	20	2	Nil		UEG20114; UEG30114; UEG40114
RIIWHS205D	Control traffic with stop-slow bat	10	2	Nil		UEG20114
RIIWHS302D	Implement traffic management plan	20	3	Nil		UEG30114; UEG40114
RIIRIS301D	Apply risk management processes	40	3	Nil		UEG40114
RIISAM201D	Handle resources and infrastructure materials and safely dispose of nontoxic materials	15	2	Nil		UEG20114; UEG30114; UEG40114
RIIWMG203D	Drain and dewater civil construction site	20	2	Nil		UEG20114; UEG30114; UEG40114

TLI07 Transport and Logistics Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
TLIB2004A	Carry out vehicle inspection	20	2	Nil		UEG20114; UEG30114;

						UEG40114
TLIC2002A	Drive light rigid vehicle	40	2	Nil		UEG20114; UEG30114; UEG40114
TLIC2025A	Operate four wheel drive vehicle	40	2	Nil		UEG20114; UEG30114; UEG40114
TLIC3003A	Drive medium rigid vehicle	40	3	Nil		UEG20114; UEG30114; UEG40114
TLIC3004A	Drive heavy rigid vehicle	40	3	Nil		UEG20114; UEG30114; UEG40114
TLIC3005A	Drive heavy combination vehicle	40	3	Nil		UEG20114; UEG30114; UEG40114
TLIC4006A	Drive multi-combination vehicle	40	4	Nil		UEG40114
TLIC4067A	Operate LP gas tanker	40	4	TLILIC3013A		UEG30114; UEG40114;
TLID2003A	Handle dangerous goods/hazardous substances	40	2	Nil		UEG20114; UEG30114; UEG40114

TLID2010A	Operate a forklift	40	2	Nil		UEG20114; UEG30114; UEG40114
TLID2016A	Load and unload explosives and dangerous goods	30	2	Nil		UEG20114; UEG30114; UEG40114
TLID3015A	Identify and label explosives and dangerous goods	20	3	Nil		UEG30114; UEG40114
TLID3023A	Use specialised liquid bulk gas transfer equipment	40	3	Nil		UEG30114; UEG40114
TLID3027A	Prepare for transport of dangerous goods	50	3	Nil		UEG30114; UEG40114
TLID3033A	Operate a vehicle-mounted loading crane	40	3	Nil		UEG20114; UEG30114; UEG40114
TLID3036A	Lift and move load using a mobile crane	40	3	Nil		UEG30114; UEG40114
TLIF2006A	Apply accident-emergency procedures	20	2	Nil		UEG20114; UEG30114; UEG40114
TLIF2010A	Apply Fatigue Management Strategies	30	2	Nil		UEG20114; UEG30114;

						UEG40114
TLIF2012A	Apply safe procedures when handling/transporting dangerous goods or explosives	30	2	Nil		UEG20114; UEG30114; UEG40114
TLIF3063A	Administer the implementation of fatigue management strategies	50	3	Nil		UEG40114;
TLIF3093A	Implement chain of responsibility regulations	30	3	Nil		UEG40114;
TLIF3096A	Carry out emergency response to a dangerous goods incident	40	3	Nil		UEG40114;
TLIF4007A	Implement and coordinate accident-emergency procedures	40	4	Nil		UEG40114;
TLIF4065A	Ensure compliance with Australian Dangerous Goods Code	70	4	Nil		UEG40114;
TLIF4066A	Implement and supervise transport regulations compliance systems	80	4	Nil		UEG40114;
TLIF4094A	Ensure compliance with chain of responsibility	40	4	Nil		UEG40114;
TLIL4059A	Implement asset management systems	40	4	Nil		UEG40114;
TLILIC0012A	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	40	3	Nil		UEG20114; UEG30114; UEG40114

TLILIC2001A	Licence to operate a forklift truck	40	2	Nil		UEG20114; UEG30114; UEG40114
TLILIC2014B	Licence to drive a light rigid vehicle	40	2	Nil		UEG20114; UEG30114; UEG40114
TLILIC2015B	Licence to drive a medium rigid vehicle	40	2	Nil		UEG20114; UEG30114; UEG40114
TLILIC2016B	Licence to drive a heavy rigid vehicle	50	2	Nil		UEG20114; UEG30114; UEG40114
TLILIC3006A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	60	3	Nil		UEG30114; UEG40114
TLILIC3008A	Licence to operate a slewing mobile crane (up to 20 tonnes)	70	3	Nil		UEG30114; UEG40114
TLILIC3013A	Preparation to transport dangerous goods by road	50	3	Nil		UEG30114; UEG40114
TLILIC3017B	Licence to drive a heavy combination vehicle	60	3	Nil		UEG20114; UEG30114; UEG40114
TLILIC3018B	Licence to drive a multi combination vehicle	60	3	Nil		UEG30114;

						UEG40114
TLILIC4009A	Licence to operate a slewing mobile crane (up to 60 tonnes)	70	4	Nil		UEG30114; UEG40114

UEE11 Electrotechnology Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEENEEC001B	Maintain documentation	20	2	Nil		UEG20114; UEG30114; UEG40114
UEENEED101A	Use computer applications relevant to a workplace	20	2	UEENEEE101A		UEG20114; UEG30114; UEG40114
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20	4	Nil	UEG40114	UEG50114; UEG60114
UEENEEE102A	Fabricate, assemble and dismantle utilities industry components	40	2	UEENEEE101A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40	2	UEENEEE101A		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114

UEENEEM020A	Attend to breakdowns in hazardous areas - gas atmospheres	20	3	UEENEEM080A plus Competencies in attending to breakdowns		UEG30114; UEG40114; UEG50114; UEG60114
UEENEEM076A	Use and maintain the integrity of a portable gas detection device	20	3	UEENEEM080A plus Competencies required by a given industry		UEG30114; UEG40114; UEG50114; UEG60114
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20	2	Competencies required by a given industry		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114

UEP12 Electricity Supply Industry - Generation Sector Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UEPMNT367A	Install and commission stationary gas fuelled reciprocating engines	60	3	UEENEEE101A, CPCCOHS1001A, HLTCPR201A		UEG30114; UEG40114; UEG50114; UEG60114
UEPMNT368A	Repair and maintain stationary gas fuelled reciprocating engines	60	3	UEENEEE101A, CPCCOHS1001A, HLTCPR201A		UEG30114; UEG40114; UEG50114; UEG60114
UEPOPS203B	Operate and Monitor Communications System	20	2	Nil		UEG20114; UEG30114; UEG40114; UEG50114;

						UEG60114
UEPOPS205B	Conduct Minor Mechanical Maintenance	30	2	Nil		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114
UEPOPS317B	Operate and Monitor Fixed Fire Protection Systems	30	3	Nil		UEG30114; UEG40114, UEG50114; UEG60114
UEPOPS336B	Manage, operate and monitor a gas turbine unit	60	3	Nil		UEG30114; UEG50114.
UEPOPS347B	Operate and monitor supervisory, control and data acquisition systems	40	3	Nil		UEG30114; UEG40114, UEG50114; UEG60114

UET12 Transmission, Distribution and Rail Sector Training Package

Unit Code	Unit Title	Weighting Points	AQF Level	Pre-requisites	Qualification Core	Qualification Elective
UETTDREL14A	Working safely near live electrical apparatus as a non-electrical worker	40	2	Nil		UEG20114; UEG30114; UEG40114; UEG50114; UEG60114

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 2 and UEG11 Gas Industry Training Package Version 1

CSU Code in UEG11 Version 2.0	Title	CSU Code in UEG11 Version 1.1	Title	Equivalent (E) or Not Equivalent (N)
UEGNSG004A	Locate, prove and protect utility assets	UEGNSG003A	Locate, prove and protect gas distribution assets	N
UEGNSG005A	Prepare to work in the gas industry	New Unit	New Unit	
UEGNSG006A	Use a portable gas detector to locate escape	New Unit	New Unit	
UEGNSG132A	Carry out basic work activities in a gas industry work environment	UEGNSG102B	Carry out work activities in a utilities industry work environment	N
UEGNSG133A	Comply with environmental policies and procedures in the utilities industry	UEGNSG104B	Comply with environmental policies and procedures	N
UEGNSG134A	Establish a utilities infrastructure work site	UEGNSG105B	Establish the work site	N

UEGNSG134A	Establish a utilities infrastructure work site	UEGNSG128A	Establish a transmission pipeline construction work site	N
UEGNSG135A	Monitor and control gas odourisation	UEGNSG107B	Control gas odourisation	N
UEGNSG136A	Carry out transmission pipeline construction work activities	UEGNSG125A	Carry out transmission pipeline construction work activities	N
UEGNSG137A	Operate and Maintain Gas Station Water Bath Heaters	New Unit	New Unit	
UEGNSG138A	Install and commission stationary gas fuelled turbine engines	New Unit	New Unit	
UEGNSG139A	Repair and maintain stationary gas fuelled turbine engines	New Unit	New Unit	
UEGNSG140A	Apply environmental policies and procedures in the utilities industry	New Unit	New Unit	
UEGNSG141A	Apply Workplace Health and Safety regulations, codes and practices in the gas supply industry	New Unit	New Unit	
UEGNSG142A	Conduct isolations under the permit to work system for gas industry work sites	UEGNSG112B	Conduct isolation procedures for permit to work system for gas industry work site	N
UEGNSG212B	Construct, lay and connect gas distribution service pipelines to a plastic	UEGNSG212A	Construct, lay and connect a residential single point gas distribution service to a	E

	mains		plastic main	
UEGNSG213B	Construct, lay and connect a gas distribution service to a steel main	UEGNSG213A	Construct, lay and connect a residential single point gas distribution service to a metal main	E
UEGNSG216A	Commission or decommission gas distribution pipelines	UEGNSG203B	Commission or decommission gas distribution pipelines	N
UEGNSG217A	Launch and recover PIGs in a gas distribution pipeline	UEGNSG205B	Launch and recover PIG in a gas distribution pipeline	N
UEGNSG218A	Carry out surveillance on gas distribution assets	UEGNSG208B	Gas distribution pipeline surveillance	N
UEGNSG219A	Conduct excavations in the utilities industry	UEGNSG215A	Conduct excavations in the gas industry	N
UEGNSG220A	Construct and lay Polyethylene gas distribution mains	UEGNSG214A	Construct and lay gas distribution mains	N
UEGNSG221A	First on site response to gas pipeline emergencies	UEGNSG209B	First on site emergency response on a distribution pipeline	N
UEGNSG221A	First on site response to gas pipeline emergencies	UEGNSG309B	First on site emergency response on a transmission pipeline	N
UEGNSG222A	Construct and lay nylon or PVC gas distribution mains	UEGNSG214A	Construct and lay gas distribution mains	N
UEGNSG223A	Construct and lay steel gas distribution	UEGNSG214A	Construct and lay gas distribution	N

	mains		mains	
UEGNSG224A	Construct and lay copper and stainless steel gas distribution pipelines	UEGNSG214A	Construct and lay gas distribution mains	N
UEGNSG225A	Perform routine maintenance on distribution pipeline facilities and equipment	UEGNSG206B	Perform routine maintenance on distribution pipeline facilities and equipment	N
UEGNSG226A	Assist with the construction, laying and connection of gas distribution services to a mains	New Unit	New Unit	
UEGNSG227A	Assist with the construction and laying of gas distribution mains	New Unit	New Unit	
UEGNSG228A	Construct and lay large copper gas distribution pipelines	UEGNSG214A	Construct and lay gas distribution mains	N
UEGNSG229A	Prepare simple drawings of as laid gas mains and services	New Unit	New Unit	
Removed	Removed	UEGNSG202B	Construct and lay distribution pipelines and services	
UEGNSG330A	Coat metallic pipelines	UEGNSG301B	Coat gas pipelines	N
UEGNSG331A	Establish right of way access for transmission pipeline construction	UEGNSG320A	Establish right of way access for transmission pipeline construction	N

UEGNSG332A	Undertake hydrotesting for transmission pipeline construction	UEGNSG321A	Undertake hydrotesting for transmission pipeline construction	N
UEGNSG333A	Work in proximity of transmission pipeline construction plant and equipment	UEGNSG323A	Operate transmission pipeline construction plant and equipment	N
UEGNSG342A	Maintain pipeline easements	UEGNSG302B	Maintain pipeline easements	N
UEGNSG344A	Commission or decommission gas transmission pipelines	UEGNSG304B	Commission or decommission gas transmission pipelines	N
UEGNSG346A	Launch and recover PIGs in gas transmission pipelines	UEGNSG306B	Pipeline pigging in gas transmission pipeline	N
UEGNSG347A	Perform routine maintenance on transmission pipeline facilities and equipment	UEGNSG307B	Perform routine maintenance on transmission pipeline facilities and equipment	N
UEGNSG348A	Supervise the operation of plant and equipment for the construction of transmission pipelines	UEGNSG328A	Supervise the operation of plant and equipment for the construction of transmission pipelines	N
UEGNSG349A	Carry out surveillance of gas transmission pipelines	UEGNSG329A	Gas transmission pipeline surveillance	N
UEGNSG350A	First response to a gas facility event	UEGNSG312B	First response to a facility event	N
UEGNSG352A	Check and report on gas station conditions	UEGNSG313B	Check and report on station conditions	

UEGNSG353A	Carry out aerial of gas transmission pipelines	UEGNSG315B	Aerial transmission pipeline surveillance	N
UEGNSG354A	Control excavations in the vicinity of a transmission pipelines	UEGNSG316B	Site control of excavations in the vicinity of a transmission pipeline	N
UEGNSG355A	Monitor and report on cathodic protection systems	UEGNSG317B	Monitor and report on cathodic protection systems	N
UEGNSG356A	Monitor and operate flow control, pressure measuring and regulating devices for gas transmission	UEGNSG318B	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	N
Removed	Removed	UEGNSG322A	Undertake rigging operations for transmission pipeline construction	
UEGNSG411A	Maintain cathodic protection systems	UEGNSG401B	Maintain cathodic protection systems	N
UEGNSG412A	Install cathodic protection systems	UEGNSG402B	Install cathodic protection systems	N
UEGNSG506A	Respond to Gas Infrastructure Emergencies	New Unit	New Unit	
UEGNSG507A	Remotely monitor and operate gas transmission flow and pressure measuring and regulating devices	New Unit	New Unit	
UEGNSG508A	Remotely check and report on gas station conditions	New Unit	New Unit	

UEGNSG511A	Operate gas infrastructure to meet nominated demand	UEGNSG501B	Operate gas infrastructure to meet nominated demand	N
UEGNSG512A	Control centre communication with gas industry stakeholders	UEGNSG502B	Control centre communication with gas industry stakeholders	N
UEGNSG513A	Manage emergencies and critical incidents for gas infrastructure	UEGNSG503B	Manage emergencies and critical incidents for gas infrastructure	N
UEGNSG514A	Monitoring and controlling field activities	UEGNSG504B	Monitoring and controlling field activities	N
UEGNSG515A	Use control centre systems to monitor and control gas infrastructure	UEGNSG505B	Use control centre systems to monitor and control gas infrastructure	N
UEGNSG614A	Load, unload, exchange and connect LPG cylinders	UEGNSG603B	Load, unload and exchanging gas cylinders	N
UEGNSG615A	Fill LPG cylinders	UEGNSG604B	Fill gas cylinders	N
UEGNSG616A	Refurbish gas cylinders	UEGNSG605B	Refurbish gas cylinders	N
UEGNSG617A	Monitor and control the transfer of bulk LPG	UEGNSG606B	Monitor and control the transfer of LPG	N
UEGNSG618A	Process Liquefied Petroleum Gas (LPG)	UEGNSG607B	Process LPG	N
UEGNSG619A	Perform scheduled maintenance on gas processing or storage facilities and equipment	UEGNSG608B	Perform minor maintenance on gas processing/storage facilities and equipment	N

UEGNSG620A	Organise the repair of faults in LPG processing or storage facilities and equipment	UEGNSG609B	Coordinate repair of faults in gas processing/storage facilities and equipment	N
UEGNSG621A	Control bulk storage of LPG	UEGNSG610B	Control storage of LPG in terminal	N
UEGNSG622A	Assess the operational capability of gas safety equipment on a delivery vehicle	UEGNSG613A	Assess the operational capability of gas safety equipment on delivery vehicle	N
Removed	Removed	UEGNSG602A	Load, discharging LPG by road tanker	
UEGNSG705A	Disconnect and reconnect small capacity gas meters	New Unit	New Unit	
UEGNSG706A	Test New Residential and Small Commercial Gas Installations	New Unit	New Unit	
UEGNSG708A	Pressure test existing residential and small commercial gas installations	New Unit	New Unit	
UEGNSG711A	Process meter reading information using appropriate technology	UEGNSG701B	Process meter reading information using appropriate technology	N
UEGNSG712A	Read and record meter readings	UEGNSG702B	Read and record meter readings	N
UEGNSG713A	Investigate billing exceptions-conditions	UEGNSG703B	Investigate billing exceptions-conditions	N
UEGNSG714A	Relight Type A gas appliances	UEGNSG704A	Conduct an appliance relight	N

UEGNSG804A	Maintain Single Stage and Single Run Gas Flow and Pressure Control and Measuring Devices	New Unit	New Unit	
UEGNSG805A	Maintain Multi-Stage and Multi-Run Gas Flow and Pressure Measuring and Regulating Devices	New Unit	New Unit	
UEGNSG806A	Maintain SCADA controlled gas flow and pressure & electronic gas measurement equipment	New Unit	New Unit	
UEGNSG807A	Install Gas Flow, Measuring and Pressure Regulating Devices	New Unit	New Unit	
UEGNSG811A	Monitor and operate complex flow control, measuring and regulating devices for gas distribution	UEGNSG801B	Monitor and operate flow control, measuring and regulating devices for gas pressure control	N

Table 2— 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

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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
UEGNSG106B	Coordinate repair of pipeline, facilities and equipment	UEGNSG106A	Coordinate repair of pipeline, facilities and equipment	E
UEGNSG107B	Control gas odourisation	UEGNSG107A	Control gas odourisation	E
UEGNSG108B	Operate and monitor pipeline control systems	UEGNSG108A	Operate and monitor pipeline control systems	E
UEGNSG109B	Control field pipeline operations	UEGNSG109A	Control field pipeline operations	E

UEGNSG110B	Supervise technical operations for gas distribution/transmission	UEGNSG110A	Supervise technical operations for gas distribution/transmission	E
UEGNSG111B	Produce maintenance strategies and plans for a gas facility	UEGNSG111A	Produce maintenance strategies and plans for a gas facility	E
UEGNSG112B	Conduct isolation procedures for permit to work system for a gas industry work site	UEGNSG112A	Conduct isolation procedures for permit to work system for a gas industry work site	E
UEGNSG113B	Manage a utilities industry OHS management system	UEGNSG113A	Manage a utilities industry OHS management system	E
UEGNSG114B	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	UEGNSG114A	Coordinate and monitor implementation of a risk management plan for a utilities industry facility	E
UEGNSG115B	Manage gas industry systems projects	UEGNSG115A	Manage gas industry systems projects	E
UEGNSG116B	Manage gas industry physical resources	UEGNSG116A	Manage gas industry physical resources	E
UEGNSG117B	Plan and implement the data acquisition and metering requirements of a gas system	UEGNSG117A	Plan and implement the data acquisition and metering requirements of a gas system	E
UEGNSG118B	Select and commission equipment to meet pressure and temperature control specifications	UEGNSG118A	Select and commission equipment to meet pressure and temperature control specifications	E
UEGNSG119B	Manage workplace risk in a gas industry	UEGNSG119A	Manage workplace risk in a gas industry	E

	facility		facility	
UEGNSG120B	Manage gas system environmental compliance	UEGNSG120A	Manage gas system environmental compliance	E
UEGNSG121B	Prepare safe design specifications of a gas system	UEGNSG121A	Prepare safe design specifications of a gas system	E
UEGNSG122B	Manage a customer service gas business unit	UEGNSG122A	Manage a customer service gas business unit	E
UEGNSG123B	Manage financial resources in a gas industry facility	UEGNSG123A	Manage financial resources in a gas industry facility	E
Deleted	Deleted	UEGNSG124A	Install and maintain process control systems — extra low voltage	N/A
UEGNSG125A	Carry out transmission pipeline construction work activities	New Unit		New Unit
UEGNSG128A	Establish a transmission pipeline construction work site	New Unit		New Unit
UEGNSG131A	Compile a gas industry technical report	New Unit		New Unit
Deleted	Deleted	UEGNSG201A	Excavate for underground utilities services operating plant and equipment	N/A
UEGNSG202B	Construct and lay distribution pipelines	UEGNSG202A	Construct and lay distribution pipelines	E
UEGNSG203B	Commission/decommission gas	UEGNSG203A	Commission/decommission gas	E

	distribution pipelines		distribution pipelines	
UEGNSG204B	Coordinate gas distribution pipeline repair and modifications	UEGNSG204A	Coordinate gas distribution pipeline repair and modifications	E
UEGNSG205B	Launch and recover PIG in a gas distribution pipeline	UEGNSG205A	Launch and recover PIG in a gas distribution pipeline	E
UEGNSG206B	Perform routine maintenance on distribution pipeline facilities and equipment	UEGNSG206A	Perform routine maintenance on distribution pipeline facilities and equipment	E
UEGNSG207B	Coordinate construction, laying and testing of gas distribution pipelines	UEGNSG207A	Coordinate construction, laying and testing of gas distribution pipelines	E
UEGNSG208B	Gas distribution pipeline surveillance	UEGNSG208A	Gas distribution pipeline surveillance	E
UEGNSG209B	First on site emergency response on a distribution pipeline	UEGNSG209A	First on site emergency response on a distribution pipeline	E
UEGNSG210B	Supervise and monitor contract staff for work on distribution pipelines	UEGNSG210A	Supervise and monitor contract staff for work on distribution pipelines	E
Deleted	Deleted	UEGNSG211A	Lay underground electrical supply cables	N/A
UEGNSG212A	Construct, lay and connect a residential single point gas distribution service to a plastic main	New Unit		New Unit

UEGNSG213A	Construct, lay and connect a residential single point gas distribution service to a metal main	New Unit		New Unit
UEGNSG214A	Construct and lay gas distribution plastic mains	New Unit		New Unit
UEGNSG215A	Conduct excavations in the gas industry	New Unit		New Unit
UEGNSG301B	Coat gas pipelines	UEGNSG301A	Coat gas pipelines	E
UEGNSG302B	Maintain pipeline easements	UEGNSG302A	Maintain pipeline easements	E
Deleted	Deleted	UEGNSG303A	Ground transmission pipeline surveillance	E
UEGNSG304B	Commission/decommission gas transmission pipelines	UEGNSG304A	Commission/decommission gas transmission pipelines	E
UEGNSG305B	Coordinate gas transmission pipeline repair and modification	UEGNSG305A	Coordinate gas transmission pipeline repair and modification	E
UEGNSG306B	Pipeline pigging in gas transmission pipeline	UEGNSG306A	Pipeline pigging in gas transmission pipeline	E
UEGNSG307B	Perform routine maintenance on transmission pipeline facilities and equipment	UEGNSG307A	Perform routine maintenance on transmission pipeline facilities and equipment	E
UEGNSG308B	Identify, evaluate and control threats to	UEGNSG308A	Identify, evaluate and control threats to	E

	transmission pipelines		transmission pipelines	
UEGNSG309B	First on site emergency response on a transmission pipeline	UEGNSG309A	First on site emergency response on a transmission pipeline	E
UEGNSG310B	Supervision and monitor contract work	UEGNSG310A	Supervision and monitor contract work	E
UEGNSG311B	Site control of third party works in the vicinity of a transmission pipeline	UEGNSG311A	Site control of third party works in the vicinity of a transmission pipeline	E
UEGNSG312B	First response to a facility event	UEGNSG312A	First response to a facility event	E
UEGNSG313B	Check and report on station conditions	UEGNSG313A	Check and report on station conditions	E
UEGNSG314B	Liaise with third party and the community to maintain pipeline integrity and community safety	UEGNSG314A	Liaise with third party and the community to maintain pipeline integrity and community safety	E
UEGNSG315B	Aerial transmission pipeline surveillance	UEGNSG315A	Aerial transmission pipeline surveillance	E
UEGNSG316B	Site control of excavations in the vicinity of a transmission pipeline	UEGNSG316A	Site control of excavations in the vicinity of a transmission pipeline	E
UEGNSG317B	Monitor and report on cathodic protection systems	UEGNSG317A	Monitor and report on cathodic protection systems	E
UEGNSG318B	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	UEGNSG318A	Monitor and operate flow control, pressure, measuring and regulating devices for gas transmission	E
UEGNSG319B	Custody transfer metering and gas	UEGNSG319A	Custody transfer metering and gas	E

	quality analysis		quality analysis	
UEGNSG320A	Establish right of way access for transmission pipeline construction	New Unit		New Unit
UEGNSG321A	Undertake hydrotesting for transmission pipeline construction	New Unit		New Unit
UEGNSG322A	Undertake rigging operations for transmission pipeline construction	New Unit		New Unit
UEGNSG323A	Operate transmission pipeline construction plant and equipment	New Unit		New Unit
UEGNSG324A	Follow company procedures to deal with incidents related to the abuse of drugs and alcohol	New Unit		New Unit
UEGNSG325A	Coordinate the operation of relevant plant and equipment for transmission pipeline construction	New Unit		New Unit
UEGNSG326A	Coordinate and monitor staff and contractors	New Unit		New Unit
UEGNSG327A	Coordinate transmission pipeline construction operations	New Unit		New Unit
UEGNSG328A	Supervise the operation of relevant plant and equipment for transmission pipeline construction	New Unit		New Unit

UEGNSG329A	Ground transmission pipeline surveillance	New Unit		New Unit
UEGNSG401B	Maintain cathodic protection systems	UEGNSG401A	Maintain cathodic protection systems	E
UEGNSG402B	Install cathodic protection systems	UEGNSG402A	Install cathodic protection systems	E
UEGNSG501B	Operate gas infrastructure to meet nominated demand	UEGNSG501A	Operate gas infrastructure to meet nominated demand	E
UEGNSG502B	Control centre communication with gas industry stakeholders	UEGNSG502A	Control centre communication with gas industry stakeholders	E
UEGNSG503B	Manage emergencies and critical incidents for gas infrastructure	UEGNSG503A	Manage emergencies and critical incidents for gas infrastructure	E
UEGNSG504B	Monitoring and controlling field activities	UEGNSG504A	Monitoring and controlling field activities	E
UEGNSG505B	Use control centre systems to monitor and control gas infrastructure	UEGNSG505A	Use control centre systems to monitor and control gas infrastructure	E
Deleted	Deleted	UEGNSG601A	Assess the operational capability of gas safety equipment on tankers	N/A
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
UEGNSG701B	Process meter reading information using appropriate technology	UEGNSG701A	Process meter reading information using appropriate technology	E

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 3 - 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	Pre requisite 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	Pre requisite 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 4 — 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 qualification that was not found in UTG98	Nil	1 & 2	Core	None
UEGNSG103A	Comply with workplace OHS procedures and practices	UTGNGS001A UTGNGS002A UTGNGS003A	Re-alignment of UTG98 core competencies into a generic utilities core	Nil	2	Core	Part — with relevant range and subject to

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
			focus				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 range and subject to notes above
UEGNSG107A	Control gas odourisation	UTGNGS313B	Change of code from UTG98	Nil	3	90	Full — with relevant range and subject to

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
							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 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

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
							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 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

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
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
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

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
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
UEGNSG123A	Manage financial resources in a Gas Industry facility	UTGNGS608A	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
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 distribution pipelines	UTGNGS303B	Change of code from UTG98	Nil	3	80	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
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 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
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 found in UTG98	Nil	2	30	None
UEGNSG301A	Coat gas pipelines	UTGNGS304A	Change of code from UTG98	Nil	3 & 4	80	Full — with relevant range and subject to

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
							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 qualification not found in UTG98	Nil	3	80	None
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

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
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 pipelines	New unit	New unit developed for Cert IV Transmission Pipeline qualification not found in UTG98	Nil	4	Core	None
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

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
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 Transmission Pipeline qualification not found in UTG98	Nil	4	Core	None
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

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
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 qualification not found in UTG98	Nil	4	90	None
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 Pipeline qualification not found in UTG98	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
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

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
UEGNSG505A	Use control centre systems to monitor and control 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	110	None
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

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
UEGNSG604A	Fill gas cylinders	UTGNGS204A	Change of code from UTG98	Nil	2	30	Full — with relevant range 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

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
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 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

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
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
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

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
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 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

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 or the Standards for NVR Registered Training Organisations 2012. 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 or the Standards for NVR Registered Training Organisations 2012.

The AQTF 2010 Essential Standards for Initial and Continuing Registration or the Standards for NVR Registered Training Organisations 2012 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 or the Standards for NVR Registered Training Organisations 2012. 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 or the Standards for NVR Registered Training Organisations 2012.

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 or the Standards for NVR Registered Training Organisations 2012. 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 or the Standards for NVR Registered Training Organisations 2012 or the Standards for NVR Registered Training Organisations 2012.

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 or the Standards for NVR Registered Training Organisations 2012.

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 or the Standards for NVR Registered Training Organisations 2012.

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 or the Standards for NVR Registered Training Organisations 2012.

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 or the Standards for NVR Registered Training Organisations 2012.

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 or the Standards for NVR Registered Training Organisations 2012.

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)/course(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 Accreditation and Registration Council	www.det.act.gov.au/vhe/accreditation_and_registration	02 6205 7091
New South Wales	Vocational Education and Training Accreditation Board, NSW	http://www.service.nsw.gov.au/nswgovdirectory/vocational-education-and-training-accreditation-board-nsw	13 77 88
Northern Territory	NT Department of Education and Training	www.det.nt.gov.au/rto	08 8901 1339
Queensland	QLD Training and Employment Recognition Council	www.training.qld.gov.au/registration	(07) 3237 9959; (07) 3222 2775
South Australia	SA Training and Skills Commission	www.training.sa.gov.au	08 8226 4359
Tasmania	Tasmanian Qualifications Authority (TQA)	www.tqa.tas.gov.au	03 6233 6354
Victoria	Victorian Registration and Qualifications Authority (VRQA)	www.vrqa.vic.gov.au	03 9637 2806
Western Australia	WA Training Accreditation Council	www.tac.wa.gov.au	08 9441 1910

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 E-Oz Energy Skills Australia as the declared National Industry Skills Council for the ElectroComms and EnergyUtilities Industry, for assistance regarding mutual recognition.

Partnership Arrangements

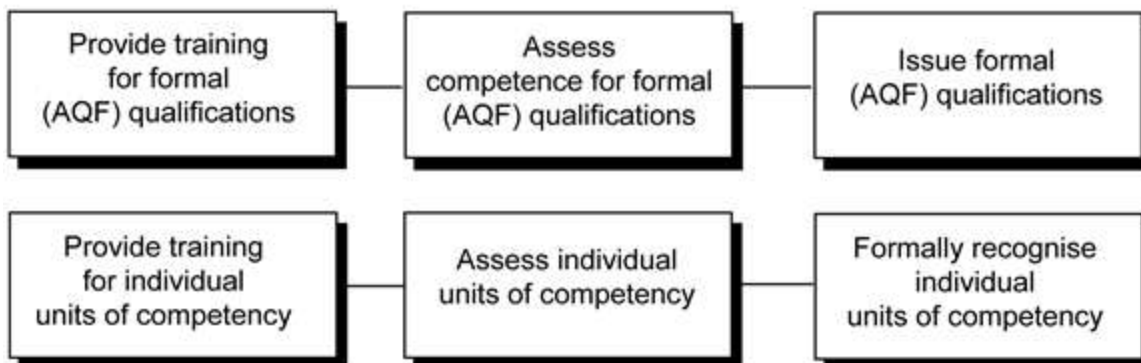
RTOs must have, and comply with, written agreements with each organisation providing training and/or assessment on its behalf. See AQTF Standard 1.6 of the Standards for Registered Training Organisations or the Standards for NVR Registered Training Organisations 2012.

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.

Roles for Registered Training Organisations

Training and assessment:



Assessment only:



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 or the Standards for NVR Registered Training Organisations 2012.

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

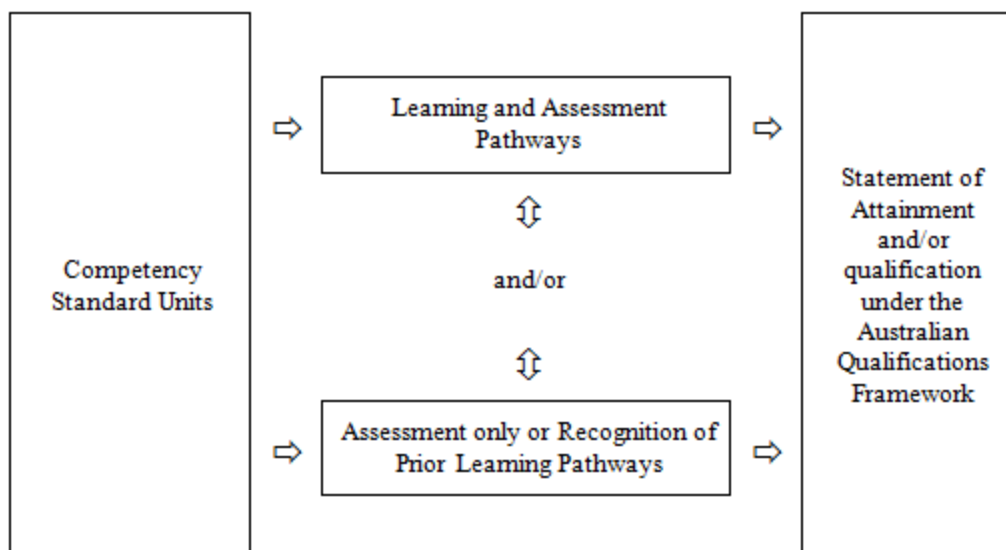
Individuals being assessed under statutory licensing and industry registration systems may be required to comply with training and experience requirements additional to any minimum requirements identified in this Training Package. These additional requirements are to be formally communicated by the RTOs 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 E-Oz Energy Skills Australia.

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

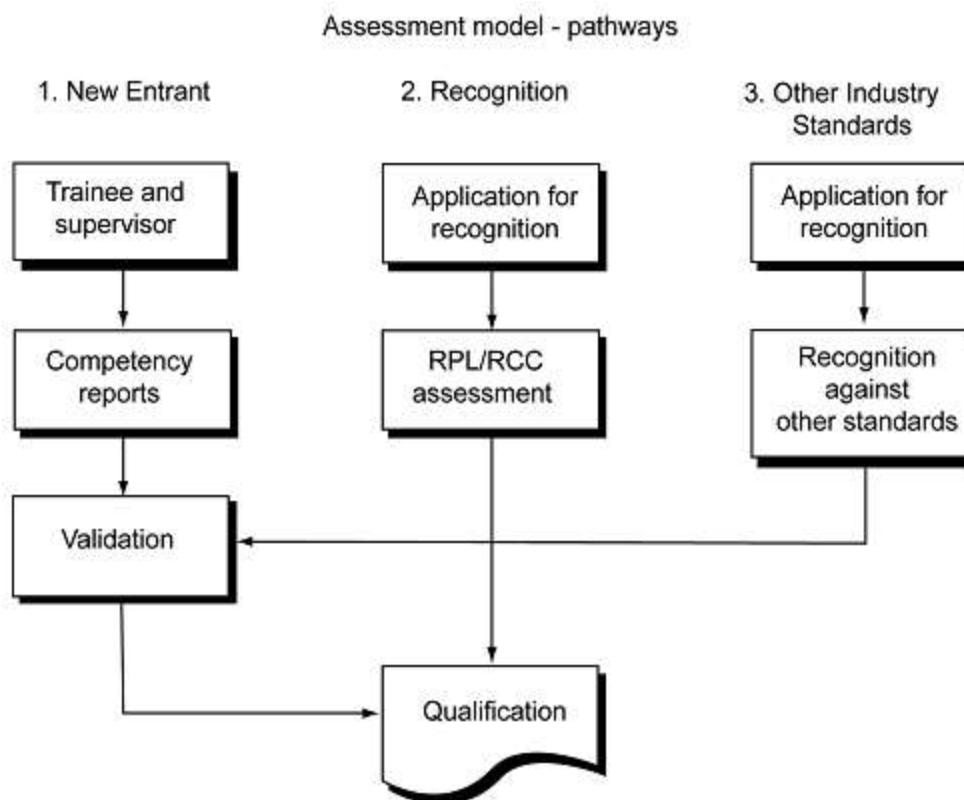
3.3 Learning and Assessment pathways

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.

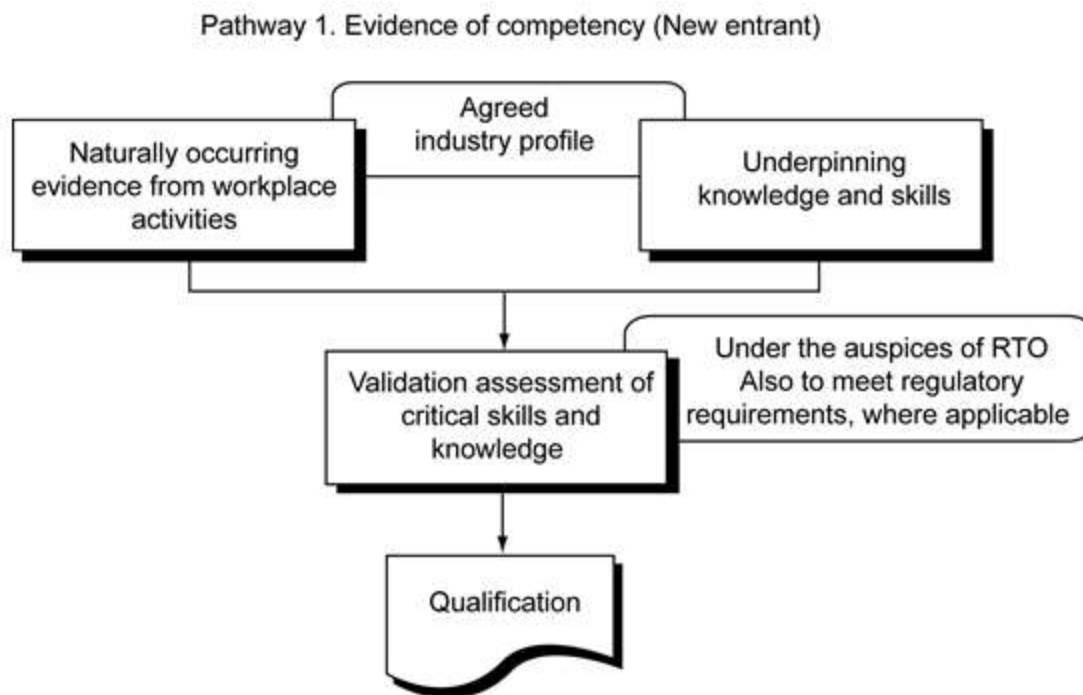
Pathway 1: New Entrant Competency Development

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 *Tradesmen's 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

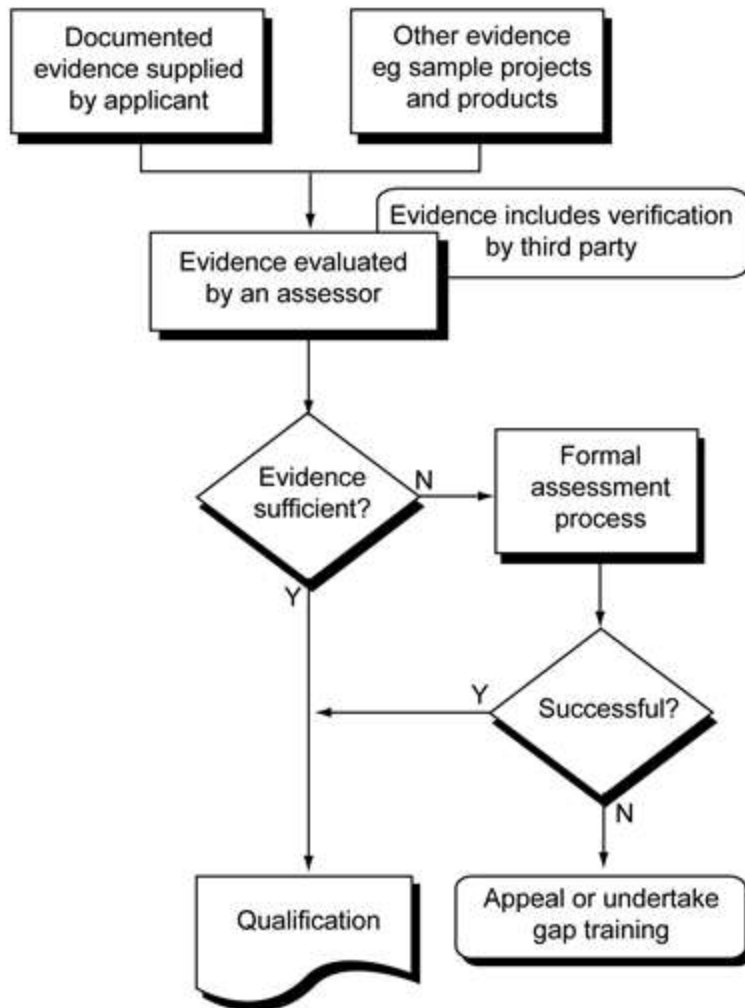
In this pathway many types of evidence can be used to determine competency for the issuance of Qualifications or Statements of Attainment. The evidence may come from records of previous relevant work experience. This type of evidence will need endorsement by a supervisor/mentor skilled in the units for 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 2. Recognition (RPL/RCC)

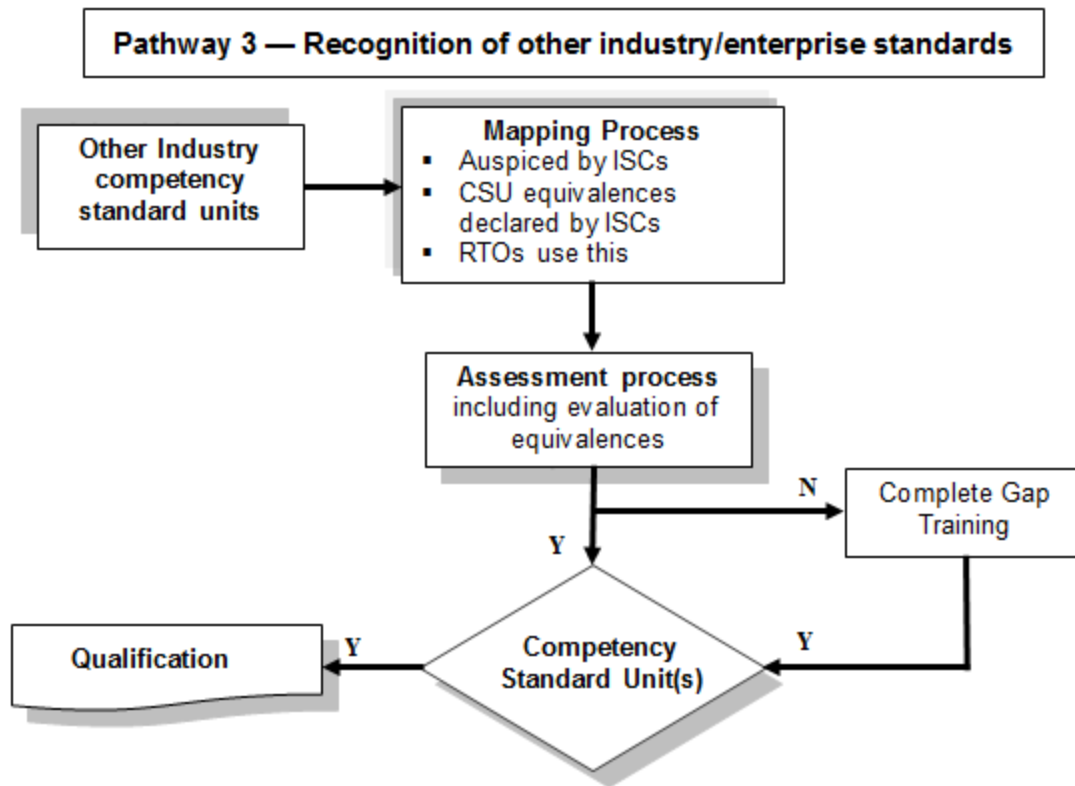


Pathway 3: Recognition of Other Industry/Enterprise Standards

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 E-Oz Energy Skills Australia. 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, E-Oz Energy Skills Australia, have developed an industry Simulation Policy. This can be accessed from the E-Oz Energy Skills Australia website at: www.e-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 the Standards for NVR Registered Training Organisations 2012 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 and Standards for NVR Registered Training Organisations 2012 specify mandatory competency requirements for assessors. For information see Element 1.4 from the AQTF 2010 Essential Standards for Registration, or Element 4.4 and 15.4 from the Standards for NVR Registered Training Organisations 2012 follows:

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, or the Standards for NVR Registered Training Organisations 2012

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 or Standards for NVR Registered Training Organisations 2012 for Registered Training Organisations or Standards for NVR Registered Training Organisations 2012
- 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 UEG11, available from E-Oz Energy Skills Australia (www.e-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 www.training.gov.au or E-Oz Energy Skills Australia (www.e-oz.com.au). Specific materials on the list have been noted by the National Skills Standards Council (NSSC) 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 or the Standards for NVR Registered Training Organisations 2012
- meet the assessment requirements expressed in the AQTF 2010 Essential Standards for Initial and Continuing Registration or the Standards for NVR Registered Training Organisations 2012.
- 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

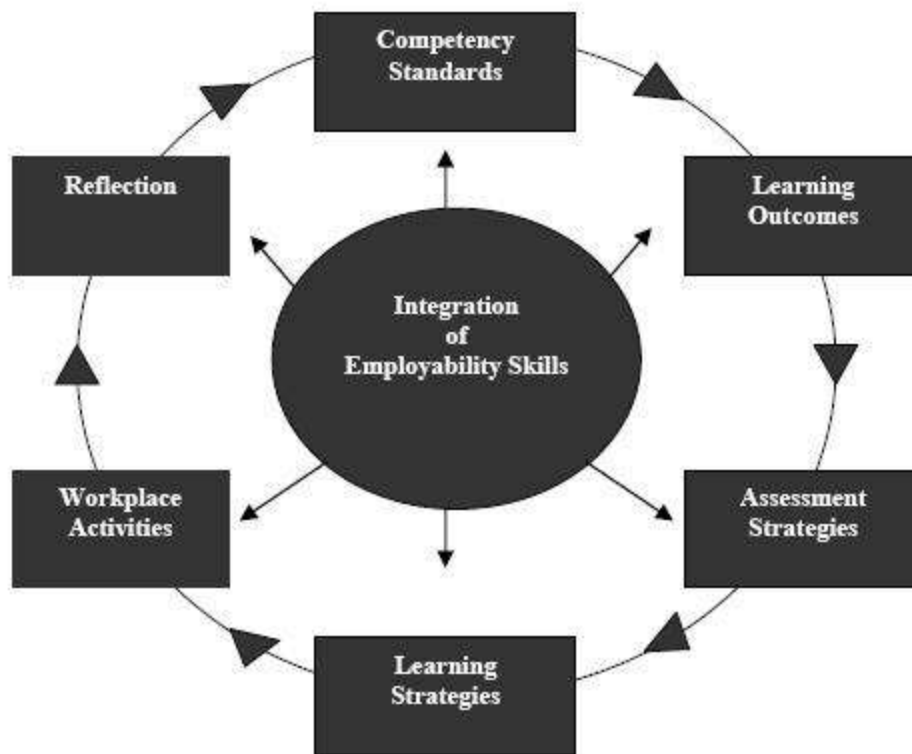
Assessments must meet the criteria set out in the AQTF 2010 Essential Standards for Initial and Continuing Registration or the Standards for NVR Registered Training Organisations 2012. For information, the mandatory assessment requirements from Standard 1 from the AQTF 2010 Essential Standards for Initial and Continuing Registration or Element 4.5 and 15.5 of the Standards for NVR Registered Training Organisations 2012 are as follows:

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 UEG11 Gas Training Package, Version 2, go to the E-Oz Energy Skills Australia website at www.e-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

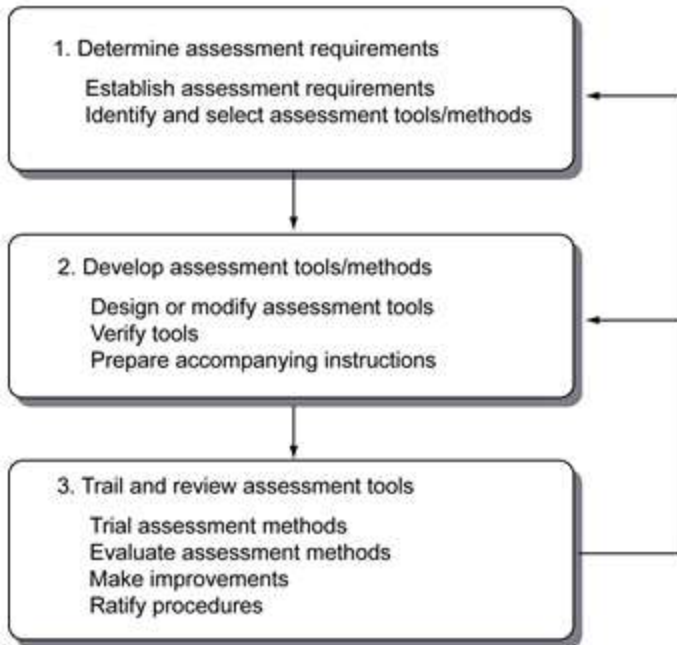
3.8 Guidelines for Designing Assessment Materials

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

Process for designing assessment materials



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 complement 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.e-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.

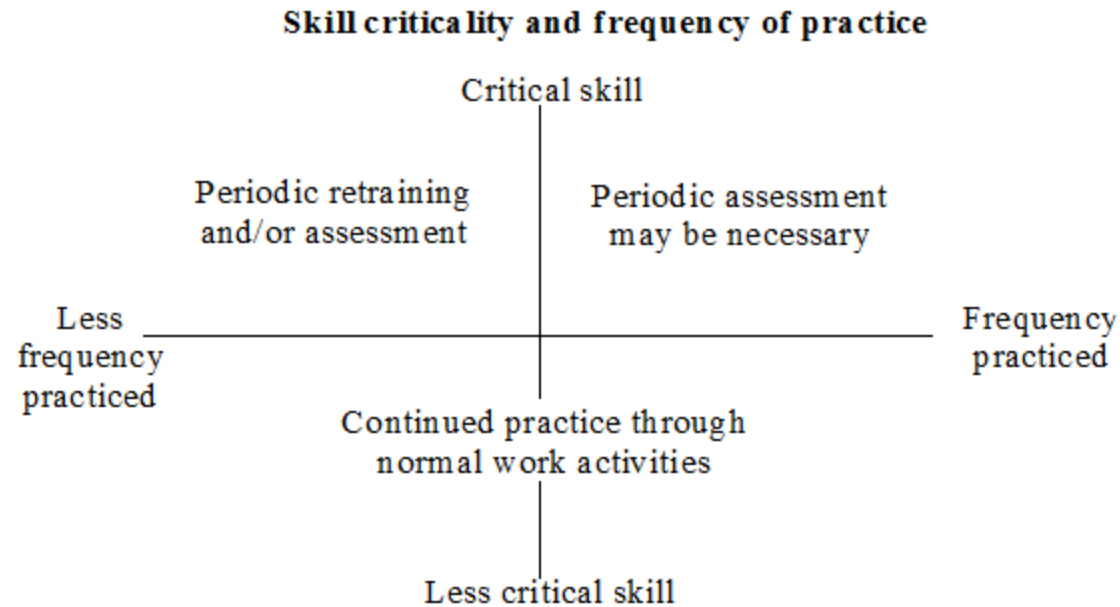
1.3.10 Guide to Assessment Methods and Items

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	Interview condition One to one	Moderate	Many

		Application of knowledge Relative to experience			
On job or workplace assessment	Observation, checklist Product assessment Questioning to complement observations	Identifying mastery or competence of practical task, technical skill or interpersonal skill in real or simulated setting Identifying gaps in education and training	Normal working conditions Moderate level supervision One to one Avoid expensive or hazardous situations	High	Nil to many 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	Confirming competence to research, analyse and synthesise information Assessment of application of	Moderate of level control	Low	Several

	Poster presentation Reports of video or speaker presentations Reports of laboratory/field work, excursions Individual learning contracts Writing simple manuals or procedures	knowledge, skills and attitudes where practical testing is not feasible Assessment of communication skills	Non-test conditions Little supervision 10 to 15		
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	³ Real work conditions under workplace supervision.	Low / Medium	On going

		required during development period.	Off-job assessment events Any number		
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²A valid profile is based on periodic collection of relevant data over the duration of a competency development training program.
³A 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:

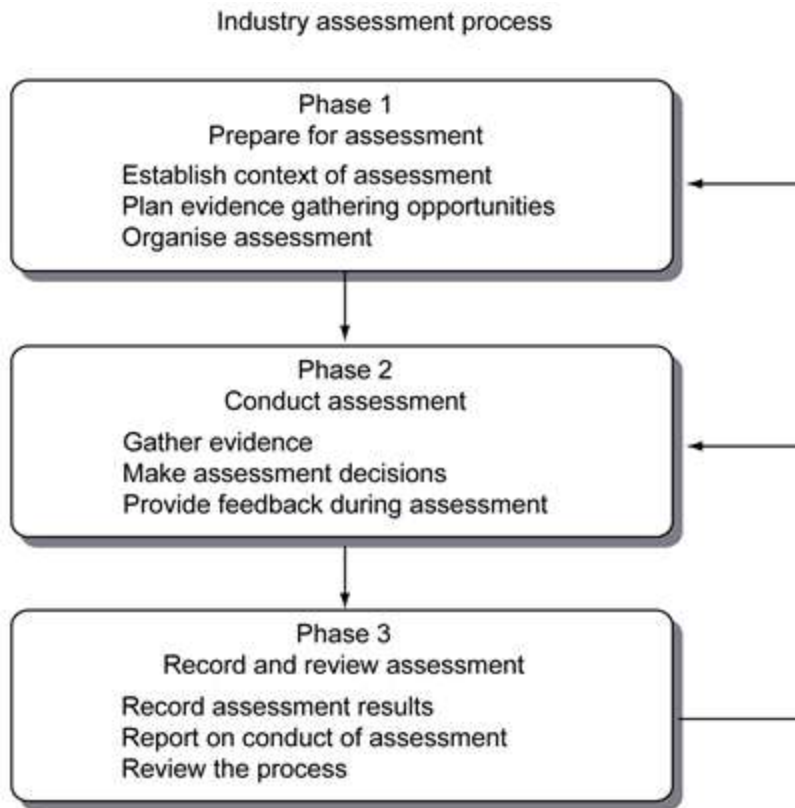
- Assessment should be planned, arranged and organised well in advance of the event/process.
- The candidate should be involved in the planning and preparation so that their readiness and availability is assured, and their advice on evidence collection opportunities may be considered.
- The environment 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 NSSC 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, E-Oz Energy Skills Australia 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 E-Oz Energy Skills Australia 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 E-Oz Energy Skills Australia the DOI 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: E-Oz Energy Skills Australia
48 Mort St
Braddon ACT 2612
Telephone: (02) 6154 5180 Fax: (02) 6241 2177
Email: office@e-oz.com.au
Website: www.e-oz.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>
Standards for NVR Registered Training Organisations 2012 -
<http://www.comlaw.gov.au/Details/F2013L00167/Download>
For general information and resources go to <http://www.training.com.au/training.gov.au> is an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses - www.training.gov.au
The Standards for Training Packages site provides National Skills Standards 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.nssc.natese.gov.au/training_packages/standards_and_policies

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.

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, NCVET, 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, NCVET, Sydney.

Field, I., 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	E-OZ Energy Skills Australia Ground floor, 68 Campbell Street SYDNEY NSW 2010 Telephone: 02 9280 2566 Fax: 02 9280 1600

Contact**Details**

Email: office@e-oz.com.au

Website: www.e-oz.com.au

Western Australia ITC**Electrical, Utilities, Electrotechnology & Public Administration Training Council**

P O Box 597, BALCATT A WA 6021

Tel: 08 9240 2688, Fax: 08 9240 2930

E-mail: david@eupa.com.au

New South Wales ITAB**NSW U&E ITAB**

PO Box 615, DARLINGHURST NSW 1300

Tel: 02 9266 0001, Fax: 02 9261 5511

Email: nswueitab@ozemail.com.au

Victoria**E-Oz Energy Skills Australia**

282 A Queens Parade, CLIFTON HILL, VIC 3068

Tel: 03 8352 4480

Email: office@e-oz.com.au

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**

PO Box 671, KENT TOWN DC, SA 5071

Tel: (08) 8362 0764

Email: pc@ewsb.com.au

Queensland

Energy Skills Queensland

70 Sylvan Road, TOOWONG, QLD 4066

Tel: 07 3271 8800 Fax: 07 3870 9291

Email: esqreception@energyskillsqld.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

E-Oz Energy Skills Australia

Ground floor,

68 Campbell Street, SYDNEY NSW 2010

Telephone: 02 9280 2566

Fax: 02 9280 1600

Email: office@e-oz.com.au

Website: www.e-oz.com.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

¹For 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 RTO²

²TAFE 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 E-Oz Energy Skills Australia. 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 NSSC 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. E-Oz Energy Skills Australia 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 E-Oz Energy Skills Australia. This detail can be obtained directly from E-Oz Energy Skills Australia or found on the E-Oz Energy Skills Australia website at www.e-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 TAE10
- 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

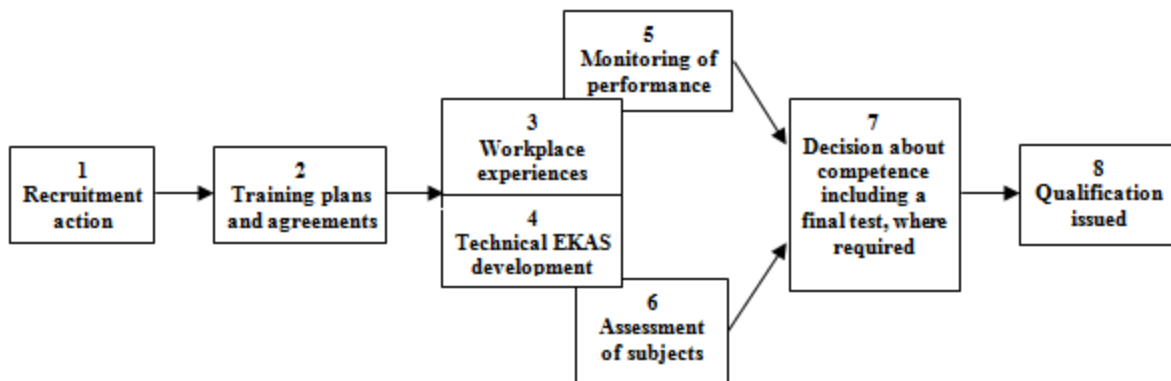
This section shows how the Training Package and associated resources relate to recruitment, training, assessment and recognition activities which may be undertaken by Industry, enterprises and/or Registered Training Organisations.

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 E-Oz Energy Skills Australia website at www.e-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.



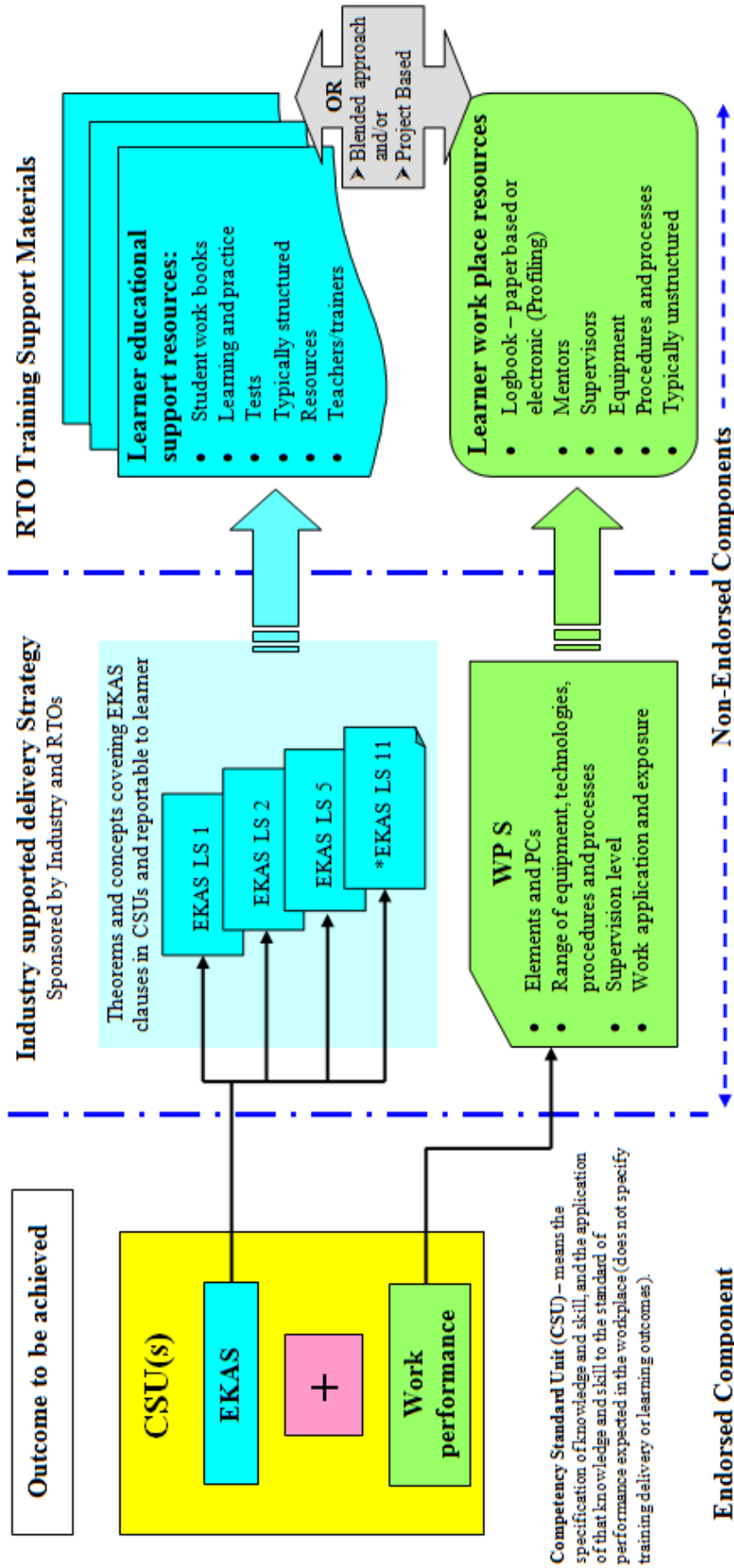
Competency Development Model

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

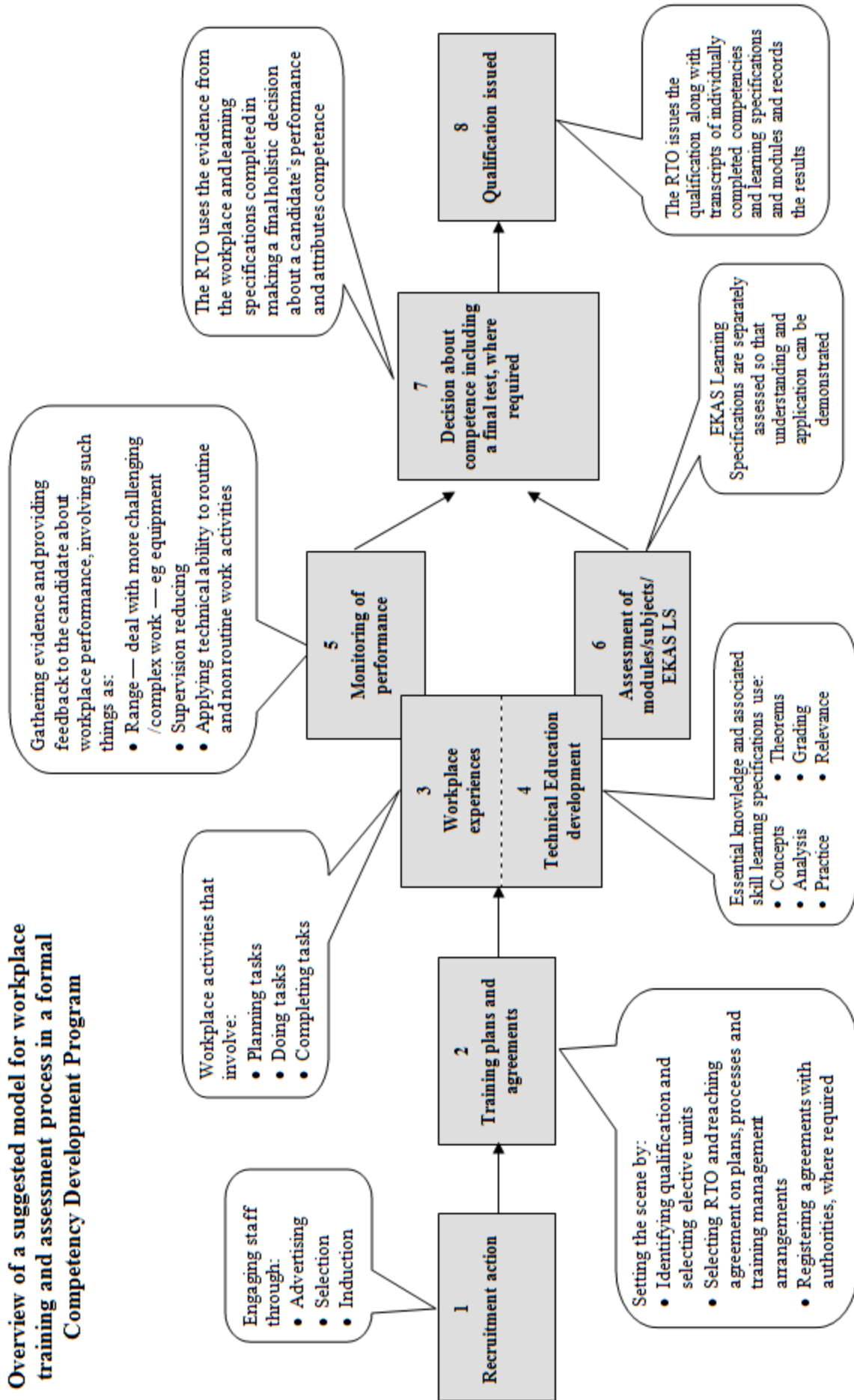
In designing training and assessment materials and resources to support new entrant competency development consideration should be given to the preferred Industry approach to learner development. The concept model detailed on the next page explores how training and assessment materials and resources 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.

RTO competency development training design model for new entrants using one CSU as an example



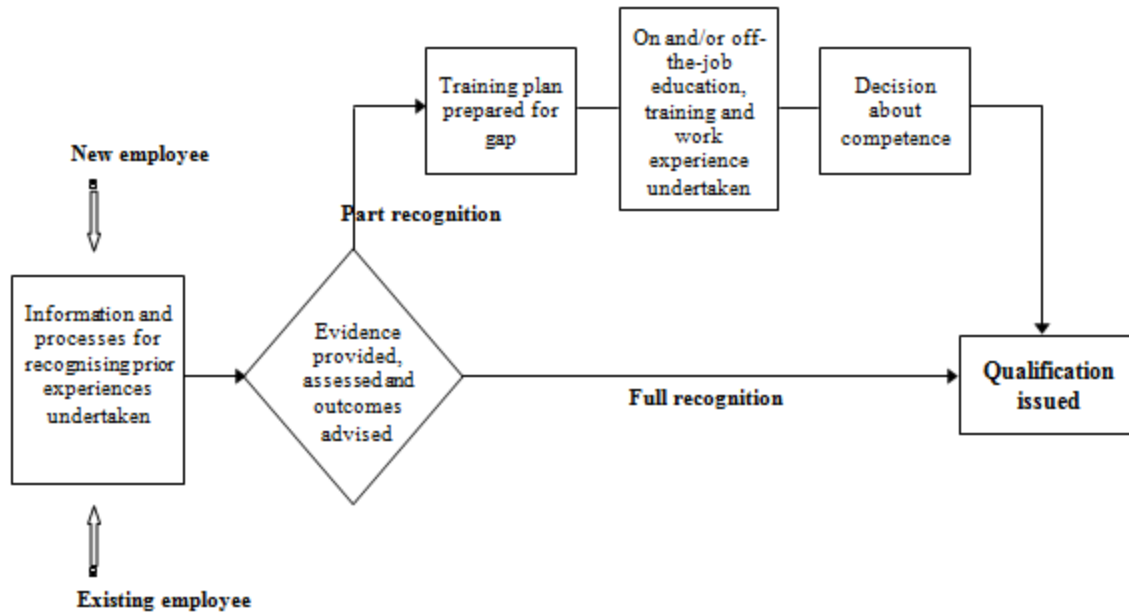
*EKAS LS – Essential Knowledge and Associated Skills Learning Specifications = where
EKAS LS 1 — may cover many units, EKAS LS 2 — may cover a number of units, EKAS LS 5
— may cover several units, and/or EKAS LS 11 – may be unique to the unit (refer to Volume 1
Part 2 and Volume 2 Part 2 for more detail)*

Overview of a suggested model for workplace training and assessment process in a formal Competency Development Program



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.

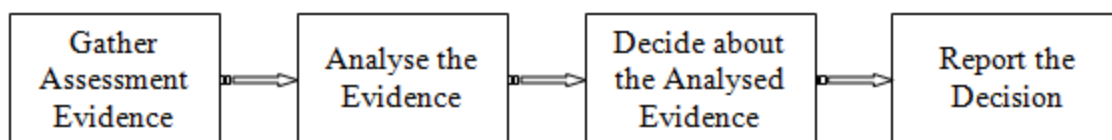
Assessment Planning

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.

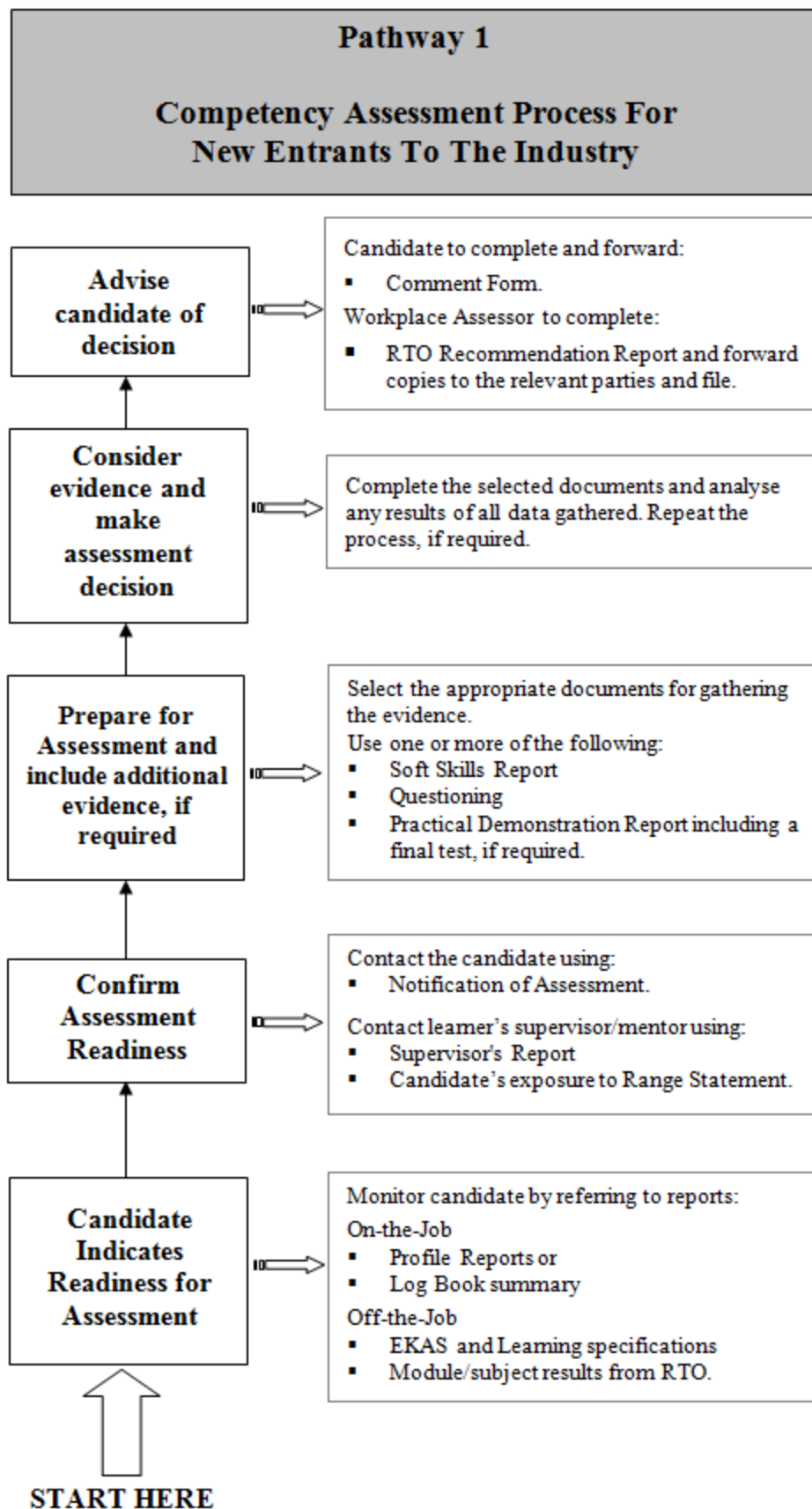


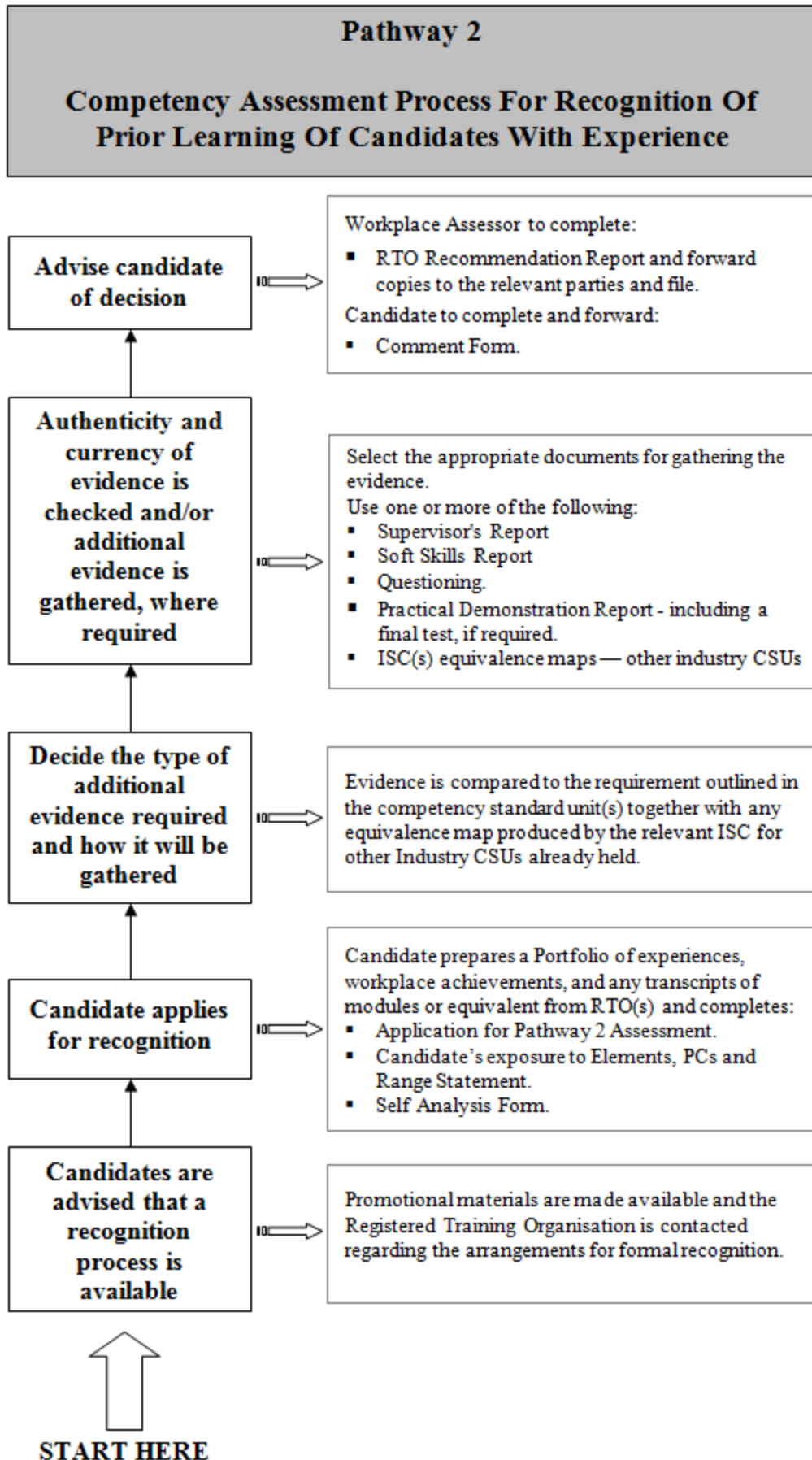
Assessors need to adapt the process to take account of physical and operational conditions as well as the characteristics and background of the candidate being assessed. Once the process has been finalised, the candidate should be advised.

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 E-Oz Energy Skills Australia 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 E-Oz Energy Skills Australia at website:

www.e-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 E-Oz Energy Skills Australia at www.e-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 – _____ <i>*(Assessor to complete this section)</i>		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:
Range Statement Item Group	Range Statement Items Involved	<i>Candidate to complete</i> Identify the items you have worked on
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 <u>not</u> 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
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
Quality systems	X
Computer systems	X
Environmental requirements	X
	Identify a minimum of three.

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	Rating	
1. Desire to expand beyond the present job role.	1	
2. Keeps abreast of new products and services.	2	
3. Requires more understanding of the job role.	3	
Systematic problem solving		Identify a minimum of two.
Personal well being		
Time management		
Professional development		
Team Work	Rating	
1. Shares ideas, assists and accepts assistance from others	1	
2. Accepts ideas and assistance from others.	2	
3. Prefers not to assist or accept assistance from others	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 work, 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 What are the main things you will do? What needs to be done to finalise the job?	Expected Response Level			Not used	
	(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: ____/____/____	
<i>Candidate's name:</i> _____	<i>Assessor's Name:</i> _____	
Notes from observation	Supervision	Engineering Practice
	Enter A, B or C	Enter D, E, F, G
<i>Plan activities:</i> Yes or No (circle to indicate if evidence is being gathered)		
<i>Carry out activities:</i> Yes or No (circle to indicate if evidence is being gathered)		
<i>Complete activities:</i> 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	G	Further training required
Assessor's Signature		

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:

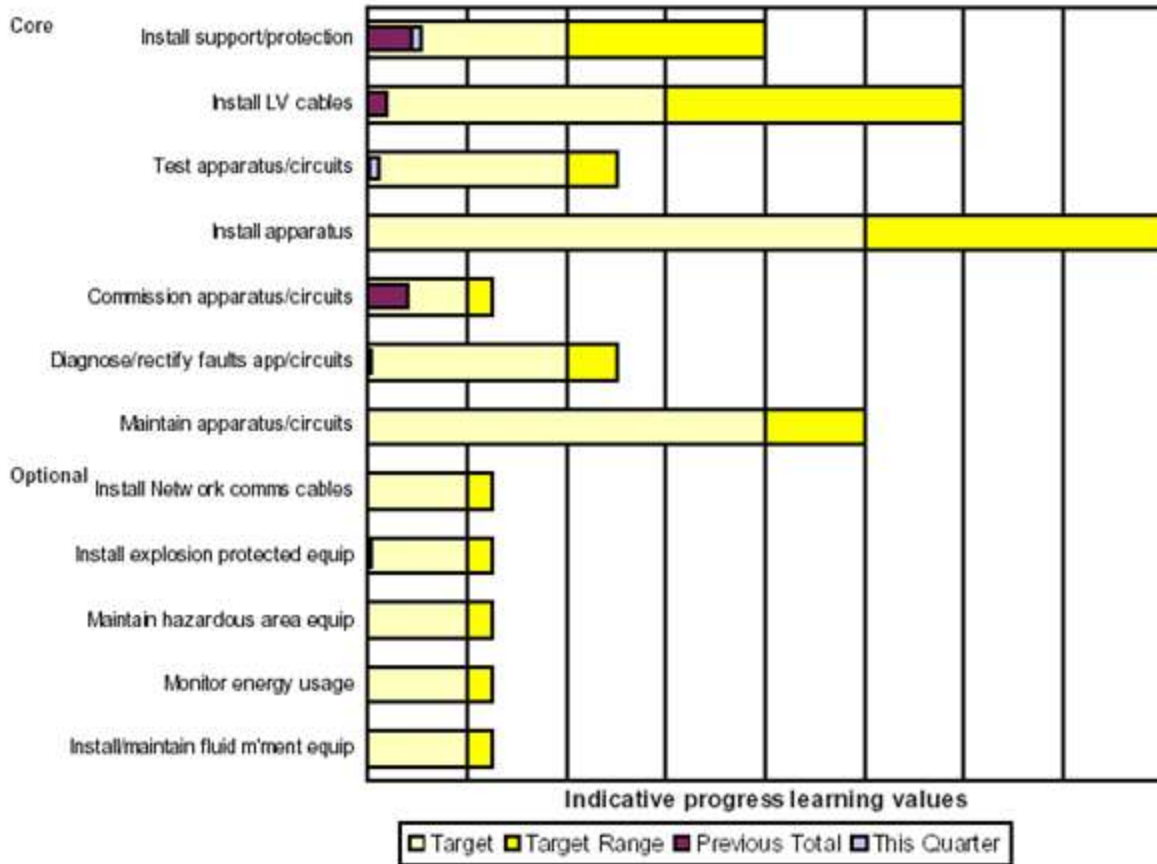
- managing workplace skill development/ performance of competency required to produce quality work
- progressive assessment and supporting the attainment of a national qualification
- the attainment of an electrical workers' licence/regulated registrations, where appropriate
- the need for job rotation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

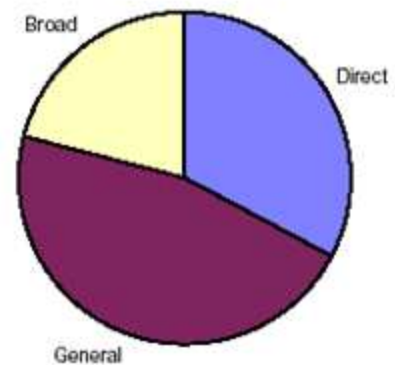
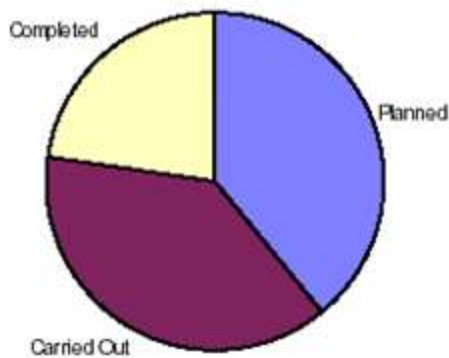
Apprentice Signature Date

Employer Signature Date

Host Signature (if applicable) Date

Apprentice role

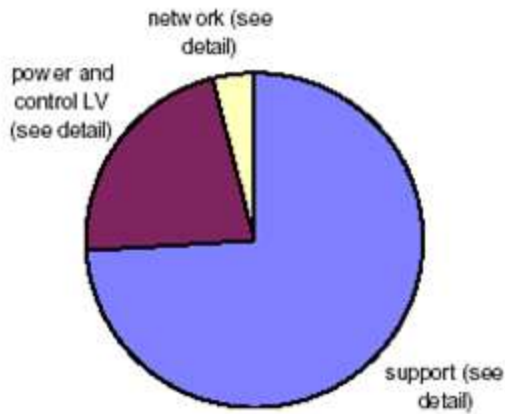
Supervision level



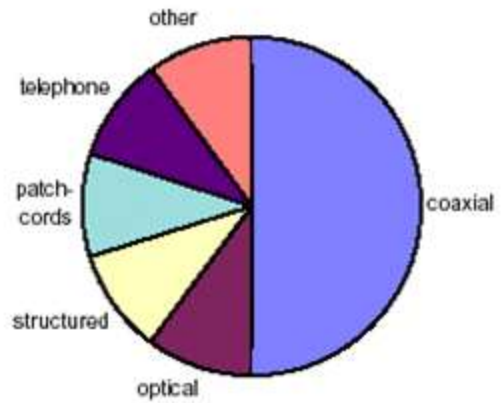
Sample Profiling Report (cont.)

First Zzsample (999999)

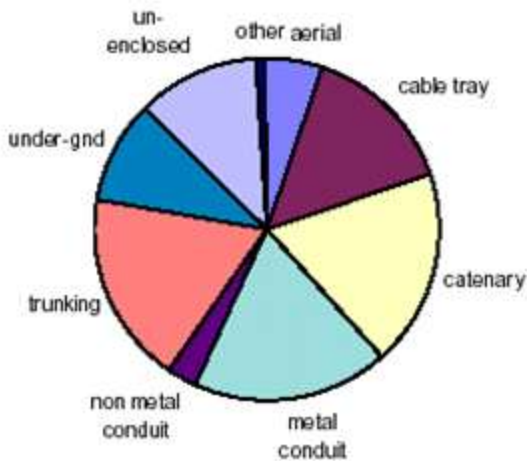
Electrical wiring system type



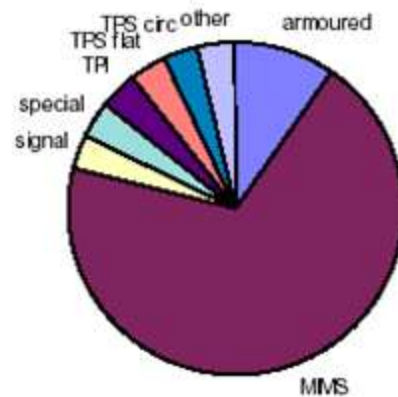
Electrical wiring detail: Network communications



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^o: _____

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	<p>An assessment tool contains both the instrument and the instructions for gathering and interpreting evidence:</p> <ul style="list-style-type: none"> • 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	<p>A candidate is any person presenting for assessment. The candidate may be:</p> <ul style="list-style-type: none"> • 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 <i>Unit[s] of Competency</i> .
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	<p>The concept of competency includes all aspects of work performance and not only narrow task skills. The four components of competency are:</p> <ul style="list-style-type: none"> • 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 breadth. 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	<p>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:</p> <ul style="list-style-type: none"> • 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. <p>Quality evidence is valid, authentic, sufficient and current. It enables the assessor to make the assessment judgement.</p>
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 <i>Competency Standard</i> .
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; reseeded 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	<p>Inform people and organisations that could in anyway be affected by transmission pipeline anomalies, ie those residing, commerce or working near such.</p> <p>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.</p> <p>Promote emergency response procedures for gas leak identification and safe practices associated with activities on or near transmission pipelines to emergency service agency personnel.</p>
Competency	<p>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.</p>
Competency Standard Unit(s) also refers to Unit(s) of competency	<p>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.</p>
Components and system	<p>May include solar powered power generation systems; 240 volt power generation systems; insulation and monolithic joints; galvanic anode beds;</p>

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: <ul style="list-style-type: none"> • 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
	<p>Supervisors; managers; team leaders; management Occupational Health and Safety persons; and</p> <p>Other persons authorised or nominated by the enterprise or industry to: perform specified work, approve specified work, inspect specified work, and direct specified work.</p>
Diagnostic, testing and restoration	<p>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.</p>
Documentation (2)	<p>Related to tasks includes time sheets; requisitions; work sheet/job cards; organisational forms/electronic templates.</p>
Documentation (3)	<p>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.</p>
Documentation (5)	<p>Includes coordinated maintenance plans and/or strategies, maintenance scheduling documents, budgets, reports, submissions, cost benefit risk assessments and work plans and/or other developments</p>

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; infrared 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
	<p>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.</p> <p>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.</p>
<p>Environmental and Sustainable Energy Procedures</p>	<p>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)</p> <p>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.</p> <p>Environmental sustainable procedures include: examining work practices that</p>

Term	Definition/Explanation
	<p>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.</p>
Environmental features	<p>Include, but are not limited to, fauna/flora habitats; indigenous cultural features; indigenous and non indigenous heritage features; water catchments.</p>
Environmental hazards	<p>Hazards associated with LPG or natural gas, geological features, soil types, neighbouring plants, residential areas, separation distances and emission and contamination hazards.</p>

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 locator; 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.
<p>Essential knowledge and associated skills (EKAS) learning specification (LS)</p>	<p>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.</p> <p>The specifications are designed to:</p> <ul style="list-style-type: none"> • 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
<p>Established procedures and requirements</p> <p>See also Standard operating procedures and Approved procedures</p>	<p>Include any company procedures; manufacturers' manual/specifications; quality assurance procedures; technical standards; work instructions; standard operating procedures; OHS and emergency response and evacuation procedures.</p>

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, compressors, 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	<p>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.</p> <p>May include confined spaces, electricity, gas, manual handling, noise, plant and equipment, infected blood, chemicals, temperature extremes, lightning and radiation.</p> <p>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.</p>
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
<p>Identifying hazards See also OHS Glossary — Hazard Identification</p>	<p>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.</p>
<p>Implement</p>	<p>To carry out or put in place a new requirement.</p>
<p>Incident</p>	<p>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')</p>
<p>Industry products and services</p>	<p>Includes organisational products; companies emerging products and services; historical products and services.</p>
<p>Information</p>	<p>On the account includes identification number; meter number; property number; position of meter; street name.</p>
<p>Information systems</p>	<p>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.</p>

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
<p>Legislative compliance See also OHS Glossary — Legislation relevant to OHS</p>	<p>Occupational Health and Safety legislation; government acts and regulations; Australian Standards and Codes of Practice; environmental legislative requirements.</p>
<p>Legislative requirements (2) See also OHS Glossary — Legislation relevant to OHS</p>	<p>Includes OHS; environmental; traffic control and are also set out in AS 1596, AS 2030 and AS 3509.</p>
<p>Legislative requirements (3) See also OHS Glossary — Legislation relevant to OHS</p>	<p>As set out in AS 1596.</p>
<p>Legislative requirements (5) See also OHS Glossary — Legislation relevant to OHS</p>	<p>May include Occupational Health and Safety legislation; government acts and regulations; Australian Standards and Codes of Practice; environmental legislative requirements.</p> <p>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.</p>
<p>Liaison with customers</p>	<p>In person or by telephone; fax; letter; Internet.</p>
<p>Loading and discharging LPG</p>	<p>Factors which need to be taken into account when loading and discharging LPG includes curfews; number of customers; volume of LPG to be delivered;</p>

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: <ul style="list-style-type: none"> • land owners • councils • utilities including telecommunications • earth moving contractors • cultural, heritage parks, lands and buildings

Term	Definition/Explanation
	<ul style="list-style-type: none"> • 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
<p>OHS information to co-workers including training</p> <p>See also OHS Glossary — inspection; specialists; management system (OHSMS); action plans; audit; records; reporting requirements; responsibilities; plan; systematic approach to managing OHS</p>	<p>Arrangements for ongoing assessment of training needs, for example, relating to:</p> <ul style="list-style-type: none"> • 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	<p>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.</p> <p>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.</p>
OHS legislative arrangements	<p>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.</p> <p>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.</p> <p>General duty of care under OHS legislation and common law</p> <p>Requirements for the maintenance and</p>

Term	Definition/Explanation
	<p>confidentiality of records of occupational injury and disease;</p> <p>Requirements for the provision of OHS information and training;</p> <p>Provisions relating to health and safety representatives and or OHS committees</p> <p>Provisions relating to OHS issue resolution</p>
OHS management system	<p>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:</p> <ul style="list-style-type: none"> • 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	<p>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.</p> <p>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.</p>
	<p>Are to be in accordance with state/territory</p>

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 space equipment and procedures; manual handling techniques; environmental requirements.
OHS safety records	<p>Identifying records required under Occupational Health and Safety legislation, for example:</p> <ul style="list-style-type: none"> • 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	<p>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.</p> <p>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</p>

Term	Definition/Explanation
	<p>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.</p>
<p>Organisational requirements (4)</p>	<p>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.</p>

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
<p>Personal protective equipment See OHS Glossary — Personal protective equipment (PPE)</p>	<p>May include protective head wear; face masks; gloves; safety boots; clothing such as overalls; hearing protection.</p>
<p>Persons</p>	<p>May include organisation employees; contractors; consultants; maintenance persons; appropriately experienced and qualified persons; drivers, cleaners, grounds and site security persons.</p>
<p>Physical resources</p>	<p>Properties/facilities, fixtures and plant, vehicles, equipment, stock and supplies, gas systems and plant, works depots, pipelines, distribution systems, storage depots and installations.</p>
<p>PIG</p>	<p>Pipeline Inspection Gauge</p> <p>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.</p>
<p>Pipeline control systems</p>	<p>Include compressor systems and equipment (compressors, monitoring systems, power supply systems, pumps, coolers, scrubbers, expanders, anti surge systems, safety systems and compressor control systems).</p>
<p>Pipeline systems</p>	<p>May include pipes; valves; compressors; electrical and electronic components;</p>

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 carburetion 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, odouring 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 stropping 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: <ul style="list-style-type: none"> • statutory regulations and codes of practice — National, State and Local Government • job specifications

Term	Definition/Explanation
	<ul style="list-style-type: none"> • 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 or 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 kept 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 resistivity 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)	<p>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.</p> <p>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.</p>
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	<p>May include coating damage/deterioration; interference from other systems; anode not working; equipment fault/failure.</p> <p>The use of personal computers, other hardware mediums and associated software may be required to detect faults.</p>
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 <i>incident</i> .
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	<p>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:</p> <ul style="list-style-type: none"> • developed specifically for the purpose • adapted from existing tools • purchased or accessed from existing tools. <p>They include:</p> <ul style="list-style-type: none"> • 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 <i>operator certification</i> .
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	<p>An enclosed or partially enclosed space which:</p> <ul style="list-style-type: none"> • 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. <p>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:</p> <ul style="list-style-type: none"> • 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). <p>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).</p> <p>References:</p> <ul style="list-style-type: none"> • AS/NZS 2865:2001 <i>Safe working in a confined space</i> • Handbook – <i>HB 213:2003 Guidelines for safe working in a confined space</i>
Consultative arrangements	<p>State and Territory OHS legislation specifies obligations for workplace consultation. The workplace arrangements to meet these obligations may include:</p> <ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • employee and workgroup meetings. <p>When developing consultative arrangements, consider:</p> <ul style="list-style-type: none"> • 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.
<p>Controls</p> <p>See also Hierarchy of control</p>	<p>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:</p> <ul style="list-style-type: none"> • should be applied when the most probable outcome is death or serious injury • may be applied where the most probable outcome is less serious. <p>Refer also <i>Hierarchy of control</i>.</p> <p>Workplace factors that impact on the controls selected and the implementation include:</p> <ul style="list-style-type: none"> • 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.
<p>Control measures</p>	<p>Devices, systems (including work methods) or approaches that reduce exposure to workplace hazards.</p>
<p>Crisis management plan</p>	<p>A flexible document that can cope with a broad range of crisis types and:</p> <ul style="list-style-type: none"> • is approved at the highest levels of the organisation

NOHSC term	Definition/Explanation
	<ul style="list-style-type: none"> • 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. <p>Documentation for crisis management plan may include:</p> <ul style="list-style-type: none"> • 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. <p>The term <i>emergency management</i> may also apply but <i>crisis management</i> infers a more holistic approach encompassing the full range of business affairs.</p>
Dangerous Goods (DG)	<p>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.</p> <p>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.</p>
Dangerous parts of plant	<p>Potential contact or entrapment points to which the operator may be exposed during:</p> <ul style="list-style-type: none"> • operation • examination • lubrication • adjustment • maintenance.
Design	<p>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</p>

NOHSC term	Definition/Explanation
	to produce a designed-product. It also includes any subsequent alteration (redesign or retrofit).
Design process	<p>There are two stages of the design process:</p> <p>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).</p> <p>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).</p>
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	<p>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.</p> <p>The key factors relating to duty of care are that:</p> <ul style="list-style-type: none"> • 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 <i>reasonable</i>.
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	<p>Events such as:</p> <ul style="list-style-type: none"> • 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. <p>May also be referred to as a <i>hazardous event</i>.</p>
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	<p>Includes:</p> <ul style="list-style-type: none"> • 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	<p>Are fitted to plant and equipment that have a risk of entrapment or other hazard and must be:</p> <p>prominently, clearly and durably marked</p> <p>coloured red (push buttons, bars or handles)</p> <p>unable to be affected by electrical or electronic circuit malfunction</p> <p>fitted where risk assessment identifies a need.</p>
Enforcement	<p>Processes and instruments available to the OHS regulator under legislation may include:</p> <ul style="list-style-type: none"> • prosecution

NOHSC term	Definition/Explanation
	<ul style="list-style-type: none"> • 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	<p>Includes:</p> <ul style="list-style-type: none"> • 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	<p>May include:</p> <ul style="list-style-type: none"> • 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	<p>Other than OHS but that impact on the management of OHS may include:</p> <ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • finance and auditing • environmental management • quality management.
Guarding	<p>Devices fitted to machinery to separate the operator from dangerous parts of the machine. Devices may include:</p> <ul style="list-style-type: none"> • 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	<p>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.</p>
Hazards of long latency	<p>Conditions, illnesses and other health risks that result from longer term exposure to specific triggers such as chemicals, noise, radiation and psychosocial factors.</p>
Hazards of low frequency/high consequence	<p>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.</p>
Hazard identification	<p>The process of identifying sources of harm. Hazard identification may be required:</p> <ul style="list-style-type: none"> • 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. <p>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.</p>

NOHSC term	Definition/Explanation
Hazard identification tools and processes	Include: <ul style="list-style-type: none"> • 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 <i>emergencies</i> .
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 <i>hazardous materials</i> 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	<p>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.</p> <p>Also called <i>wellness</i>.</p>
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	<p>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:</p> <ul style="list-style-type: none"> • 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	<p>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.</p> <p>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).</p>
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. (<i>Incident</i> is the preferred term rather than <i>accident</i>)
(Sources of OHS) Information	<p>May be internal and include:</p> <ul style="list-style-type: none"> • hazard, incident and investigation reports • workplace inspections • incident investigations • minutes of meetings

NOHSC term	Definition/Explanation
	<ul style="list-style-type: none"> • 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	<p>May be external, including:</p> <ul style="list-style-type: none"> • 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	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <i>lock-out</i> and <i>tag-out</i> .
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: <ul style="list-style-type: none"> • 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 <i>Isolation</i> .
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 from 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 <i>workplace inspection</i> .
OHS specialists	Include: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • be suitability identified

NOHSC term	Definition/Explanation
	<ul style="list-style-type: none"> • 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	<p>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 <i>consultative arrangements</i>, however <i>participation</i> implies a higher level of involvement.</p>
Permit to work	<p>A written authority document such as hot work and confined space entry that:</p> <ul style="list-style-type: none"> • 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	<p>As defined in National Standard for Plant includes:</p> <ul style="list-style-type: none"> • 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	<p>The administrative process by which a certifying authority or state OHS regulator requires an organisation or industry to register plant, machinery and equipment.</p>
Personal protective equipment (PPE)	<p>Equipment designed to be worn to provide protection from hazards, and may include:</p> <ul style="list-style-type: none"> • head protection • face and eye protection

NOHSC term	Definition/Explanation
	<ul style="list-style-type: none"> • respiratory protection • hearing protection • hand protection • clothing and footwear. <p>PPE is considered the least satisfactory control measure.</p>
Policies and procedures	<p>Relevant to OHS include:</p> <ul style="list-style-type: none"> • 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	<p>Focus on assessing how successfully a workplace is performing through measuring OHS processes.</p>
(OHS) Records	<p>Requirements for OHS record keeping may be defined in:</p> <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • hazard and incident reports, First Aid records • risk assessments • hazardous substances and dangerous goods 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. <p>OHS records must be stored taking account of:</p> <ul style="list-style-type: none"> • privacy

NOHSC term	Definition/Explanation
	<ul style="list-style-type: none"> • 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	<p>Those with legislated OHS responsibilities include:</p> <ul style="list-style-type: none"> • 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	<p>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.</p> <p>Refer also to <i>Consequence</i> and <i>Likelihood</i>.</p>
Risk analysis	<p>Analysing the risk to:</p> <ul style="list-style-type: none"> • 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. <p>Factors influencing the risk may be associated with:</p> <ul style="list-style-type: none"> • 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 <i>Risk Analysis</i> and <i>Risk evaluation</i> .
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: <ul style="list-style-type: none"> • 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 <i>Hazard Register</i> .
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: <ul style="list-style-type: none"> • managers • supervisors • health and safety and other employee representatives • OHS committees • employees and contractors • the community.
Standards	Relevant to OHS include: <ul style="list-style-type: none"> • OHS regulations and standards developed by OHS regulators • national standards (NOHSC) • Australian standards • International national standards • industry standards

NOHSC term	Definition/Explanation
	<ul style="list-style-type: none"> • 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	<p>A document that:</p> <ul style="list-style-type: none"> • 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	<p>The overall process of work including:</p> <ul style="list-style-type: none"> • 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	<p>Requires:</p> <ul style="list-style-type: none"> • 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. <p>Factors that may impact on the implementation of a systematic approach to managing OHS may include:</p> <ul style="list-style-type: none"> • 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 <i>Isolation</i> .

NOHSC term	Definition/Explanation
Technical advisors	To the OHS function may include: <ul style="list-style-type: none">• 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 <i>Health promotion</i> .
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:

Unit Number											
U	E	G	N	S	G					A	
Industry — E-Oz Energy Skills Australia identifier									Training Package identifier		Industry Streams: Numbers 000 to 999
12 Characters Maximum											

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, UEGNSG100A is changed to UEGNSG100B

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	<p>genres, which involve complex relationship between pieces of information and/or propositions.</p> <p>Interprets subtle nuances, infers purpose of author and makes judgements about the quality of an argument.</p> <p>Reads and critically evaluates texts containing data which includes some abstraction, symbolism, and technicality presented in graphic, diagrammatic, formatted or visual form.</p>	<p>of technology as, applied in a particular workplace or environment.</p> <p>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.</p> <p>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.</p> <p>Prepares a written or oral report, which critically evaluates the content, structure, and purpose of technical texts including graphic, diagrammatic or numerical information.</p> <p>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.</p> <p>Draws from a number of sources and uses computer skills to prepare a report, e.g. CV and job application letter.</p>
4	4.1 4.2	<p>Reads and interprets structurally intricate texts in chosen fields of knowledge which require integration of several pieces of information for generating meaning.</p> <p>Interprets texts, which include ambiguity, and inexplicitness where reader needs to distinguish fact from opinion and infer purpose.</p> <p>Interprets and extrapolates from texts containing data which includes some abstraction, symbolism, and technicality presented in graphic, diagrammatic, formatted or visual form.</p>	<p>Compares and contrasts views on technology in newspaper articles.</p> <p>Interprets the purposes and objectives for the use of technology after the reading a brochure or manual.</p> <p>Selects technological practices to conform with the guidelines for health and safety, environmental impact and ethical practice, and uses them within those guidelines.</p> <p>Uses guidelines to ensure technological equipment is used to its full capacity.</p> <p>Uses a computer to prepare a typed report from a hand-drafted report.</p> <p>Compares and contrasts different technologies and their impact, e.g. argues</p>

Scale	IoC*	Indicators of Competence	Technical Communication
			<p>the case for new practices when using new technologies, reports on the effects of installation of new machinery.</p> <p>Writes a report on the impact of a particular technology for a specific audience, e.g. management committees, tri-partite committees.</p> <p>Reads a complex diagram to identify components and procedures for dealing with a technical fault or breakdown.</p>

Reading — continued

Scale	IoC*	Indicators of Competence	Technical Communication
3	3.1 3.2 3.3	<p>Reads and interprets texts of some complexity, integrating (where relevant) a number of pieces of information in order to generate meaning.</p> <p>Displays awareness of purpose of text, including unstated meaning.</p> <p>Interprets and extrapolates from texts containing data which is unambiguously presented in graphic, diagrammatic, formatted or visual form.</p>	<p>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.</p> <p>Uses the author, title, key word and other search indexes of a library computer.</p> <p>Comprehends short summary information on computer-managed learning packages to choose a relevant package to suit own needs.</p> <p>Uses the word processing program on a computer to produce texts.</p> <p>Writes simple instructions for using familiar technology, e.g. how to use an automatic teller machine.</p> <p>Completes a formatted workplace test, e.g. damage or breakdown report.</p> <p>Writes a brief report on uses of technology, e.g. for classroom, workplace, domestic or community purposes.</p>
2	2.1 2.2	<p>Reads and interprets short simple texts on a personally relevant topic.</p> <p>Locates specific information relating to familiar contexts in a text which</p>	<p>Reads short, relevant, explicit, clearly formatted texts related to technology, e.g. the author and title index of a library computer.</p>

		<p>may contain data in simple graphic, diagrammatic, formatted or visual form.</p>	<p>Chooses a computer assisted learning package, having read short descriptions of one or two programs, to acquire a defined skill or area of knowledge.</p> <p>Writes a short description, e.g. describes a damaged part of a machine to facilitate repair.</p> <p>Extracts information from a list with language and numeracy components, e.g. price lists of components for computer systems.</p> <p>Records simple and routine information using the telephone, e.g. takes a phone message, on a form designed for this purpose.</p> <p>Interprets instructions, which combine pictorial and written information, e.g. directions on how to operate a piece of machinery safely.</p>
1	1.1 1.2	<p>Reads and identifies letter of the alphabet in the context of whole words, numbers, signs and symbols relating to personal details and immediate environment.</p> <p>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.</p>	<p>Recognises very short, explicit, pictorial texts, e.g. understands logos related to worker safety before using a piece of machinery, reads letters on a keyboard.</p> <p>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.</p> <p>Types own name or single words into a computer-assisted learning program.</p>

Note: IoC* — Indicators of Competency sub-level

Writing

Scale	IoC*	Indicators of Competence	Technical Communication
5	5.4 5.5	<p>Demonstrates well-developed writing skills by selecting stylistic devices to express complex relationships between ideas and purposes.</p> <p>Generates complex written texts with control over generic</p>	<p>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.</p> <p>Draws on prior knowledge of the application of technology in researching the capacity of a</p>

Scale	IoC*	Indicators of Competence	Technical Communication
		structure.	<p>new system, e.g. writes a briefing and recommends purchase or use of a particular system.</p> <p>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.</p> <p>Prepares a written or oral report, which critically evaluates the content, structure, and purpose of technical texts including graphic, diagrammatic or numerical information.</p> <p>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.</p> <p>Draws from a number of sources and uses computer skills to prepare a report, e.g. CV and job application letter.</p>
4	4.4 4.5	<p>Communicates complex relationships between ideas by matching style of writing to purpose and audience.</p> <p>Generates written texts reflecting a range of genres and using appropriate structure and layout.</p>	<p>Compares and contrasts views on technology in newspaper articles.</p> <p>Interprets the purposes and objectives for the use of technology after the reading a brochure or manual.</p> <p>Selects technological practices to conform with the guidelines for health and safety, environmental impact and ethical practice, and uses them within those guidelines.</p> <p>Uses guidelines to ensure technological equipment is used to its full capacity.</p> <p>Uses a computer to prepare a typed report from a hand-drafted report.</p> <p>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.</p> <p>Writes a report on the impact of a particular technology for a specific audience, e.g. management committees, tri-partite committees.</p>

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	<p>Communicates relationships between ideas through selecting and using grammatical structures and notations, which are appropriate to the purpose.</p> <p>Produces and sequences paragraphs according to purpose of text.</p>	<p>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.</p> <p>Uses the author, title, key-word and other search indexes of a library computer.</p> <p>Comprehends short summary information on computer-managed learning packages to choose a relevant package to suit own needs.</p> <p>Uses the word processing program on a computer to produce texts.</p> <p>Writes simple instructions for using familiar technology, e.g. how to use an automatic teller machine.</p> <p>Completes a formatted workplace test, e.g. damage or breakdown report.</p> <p>Writes a brief report on uses of technology, e.g. for classroom, workplace, domestic or community purposes.</p>
2	2.3 2.4	<p>Writes about a familiar topic using simple sentence structure and joining ideas through conjunctive links where appropriate.</p> <p>Completes forms or writes notes using factual or personal information relating to familiar contexts.</p>	<p>Reads short, relevant, explicit, clearly formatted texts related to technology, e.g. the author and title index of a library computer.</p> <p>Chooses a computer assisted learning package, having read short descriptions of one or two programs, to acquire a defined skill or area of knowledge.</p> <p>Writes a short description, e.g. describes a damaged part of a machine to facilitate repair.</p> <p>Extracts information from a list with language and numeracy components, e.g. price lists of</p>

Scale	IoC*	Indicators of Competence	Technical Communication
			<p>components for computer systems.</p> <p>Records simple and routine information using the telephone, e.g. takes a phone message, on a form designed for this purpose.</p> <p>Interprets instructions, which combine pictorial and written information, e.g. directions on how to operate a piece of machinery safely.</p>
1	1.3 1.4 1.5	<p>Copies letters of the alphabet, numbers, and dates in order to convey personal details such as name, address, telephone number.</p> <p>Writes basic personal details about self or others such as name, address, and signature.</p> <p>Writes one or two phrases/simple sentences conveying an idea, message or opinion drawing from a modelled text.</p>	<p>Recognises very short, explicit, pictorial texts, e.g. understands logos related to worker safety before using a piece of machinery, reads letters on a keyboard.</p> <p>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.</p> <p>Types own name or single words into a computer-assisted learning program.</p>

Note: IoC* — Indicators of Competency sub-level

Numeracy

Scale	IoC*	Indicators of Competence	Technical Communication
5	5.10 5.11 5.12	<p>Interprets, selects and investigates appropriate mathematical information and relationships highly embedded in an activity, item or text.</p> <p>Selects and applies a wide range of mathematical strategies flexibly to generate solutions to problems across a broad range of contexts.</p> <p>Uses a wide range of oral and written informal and formal language and representation including symbols, diagrams and charts to communicate</p>	<p>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 tile the roof applying a 4% allowance for wastage.</p> <p>Plans and gathers information on a negotiated topic from 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</p>

Scale	IoC*	Indicators of Competence	Technical Communication
		mathematically.	<p>report expressing a viewpoint, which is substantiated by discussion of supporting statistical evidence.</p> <p>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 ($1.2 \times 10^7 \text{m}^2$) to a thickness of $6 \times 10^3 \text{mm}$.</p> <p>Uses financial formulae, e.g. simple and compound interest to calculate and contrast the interest incurred in borrowing money from financial institutions.</p>
4	4.10 4.11 4.12 4.13	<p>Selects and investigates appropriate mathematical information and relationships embedded in an activity, item or text.</p> <p>Selects and applies an expanding range of mathematical strategies flexibly to solve problems in a variety of contexts.</p> <p>Examines and questions the appropriateness, possible interpretations and implications of aspects of a mathematical activity.</p> <p>Uses a range of oral and written informal and formal language and representation including symbols, diagrams and charts to communicate mathematically.</p>	<p>Uses ratio and scale to interpret dimensions on a basic plan.</p> <p>Applies similarity and ratio to estimate and calculate lengths, e.g. finds height of a building, a tree.</p> <p>Compares quality and costs of using imported vs Australian tiles, discount vs brand name paints.</p> <p>Presents information in appropriate graphical format to show different interpretations and influences, e.g. analysis of government spending on education.</p> <p>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.</p> <p>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.</p> <p>Calculates and contrasts monthly income from average sales, given a variety of salary options involving retainers and commission rates.</p>

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	<p>Selects appropriate mathematical information embedded in a real life activity, item or text.</p> <p>Selects and applies a range of mathematical strategies to solve problems in a number of contexts which are familiar and may be interrelated.</p> <p>Reflects on and questions reasonableness and appropriateness of the purpose, process and outcomes of a mathematical activity.</p> <p>Uses oral and written informal and formal language and representation including symbols and diagrams to communicate mathematically.</p>	<p>Uses a distance scale to find the shortest route between two locations on a map and considers road terrain conditions in deciding preferred route.</p> <p>Expresses and calculates with metric quantities, e.g. interprets and costs quantities of cheese given different forms such as 350g, 0.35kg.</p> <p>Measures common three-dimensional shapes, e.g. room, and represents the information on an appropriate diagram drawn to scale.</p> <p>Calculates with common, fractions and metric measurements, e.g. adjusts the quantities in a recipe by halving or doubling to obtain the required amount.</p> <p>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.</p> <p>Compares casual and permanent rates of pay over a given time span for work of the same nature.</p>
2	2.9 2.10 2.11 2.12	<p>Locates relevant mathematical information in a familiar real life activity text.</p> <p>Selects and uses straightforward mathematical actions in a familiar and predictable contexts.</p> <p>Uses estimation and prior experience to examine purpose and check reasonableness of the process and outcomes of a mathematical activity.</p> <p>Uses oral and written informal and formal language and representation some symbols and diagrams to communicate mathematically.</p>	<p>Compares measurements taken with estimated lengths of familiar objects, e.g. estimates and measures storeroom dimensions.</p>
1	1.10	<p>Locates simple key mathematical information in a familiar real life</p>	<p>Estimates lengths of familiar objects using metric units, e.g. a person's height,</p>

Scale	IoC*	Indicators of Competence	Technical Communication
	1.11 1.12 1.13	<p>activity text.</p> <p>Recognises and uses straightforward mathematical actions which relate to immediate contexts.</p> <p>Uses rough estimation and prior experience to identify purpose and check reasonableness of the process and outcomes of a mathematical activity.</p> <p>Uses everyday informal oral language and representation including familiar symbols and diagrams to communicate mathematically.</p>	height of doorway.