



Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG203B Commission or decommission gas distribution pipelines

Release: 1

UEGNSG203B Commission or decommission gas distribution pipelines

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the commissioning and decommissioning of gas distribution pipelines. It encompasses the use of relevant tools and equipment; liaison with appropriate authorities; pipeline systems; pipeline control systems; testing.

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice

3)

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training.

License to practice 3)
Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

Pre-Requisites

Prerequisite Unit(s) 4)

Competencies 4.1)

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

UEGNSG215A Conduct excavations in the gas industry

UEGNSG202B Construct and lay distribution pipelines and services

Literacy and numeracy skills 4.2)

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills 5)

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

- 6) Elements describe the essential outcomes of a competency standard unit. Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and plan commissioning/decommissioning of gas distribution pipelines	<p>1.1 Work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection</p> <p>1.2 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites</p> <p>1.3 OHS, environmental and sustainable energy policies and procedures related to the commissioning and decommissioning of gas distribution pipelines are identified and confirmed for the purposes of the work performed and communicated</p> <p>1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures</p> <p>1.5 Risk control measures for identified hazards are implemented, prioritised and monitored against the work schedule</p> <p>1.6 Relevant work permits are obtained to access and perform work according to requirements and established procedures</p> <p>1.7 Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order</p> <p>1.8 Relevant persons at worksite are confirmed to be current in First Aid and other related work</p>

ELEMENT	PERFORMANCE CRITERIA
	procedures according to requirements
	1.9 Liaison and communication with authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
	1.10 Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11 Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12 Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Carry out commission/decommission gas of distribution pipelines	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3 Essential Knowledge and Associated Skills are applied to commissioning/decommissioning of gas distribution pipelines to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4 Commissioning/decommissioning of gas distribution pipelines is carried out in accordance with the work schedule and to requirements and established procedures
	2.5 Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are

ELEMENT	PERFORMANCE CRITERIA
	reported to the authorised persons for directions according to established procedures
	2.6 Adjustments are made for unplanned events in commissioning/decommissioning of gas distribution pipelines and undertaken within the scope of established procedures
	2.7 Known solutions to a variety of problems are applied using acquired Essential Knowledge and Associated Skills
	2.8 Reports and ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Inspect test and notify completion of commissioning/ decommissioning of gas distribution pipeline work	3.1 Tools and equipment appropriate to the testing requirements are selected and work undertaken is checked against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2 Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3 Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5 Relevant work permits are signed off and equipment is returned to service in accordance with requirements
	3.6 Final inspections are undertaken and work completion records, reports and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for the commissioning/decommissioning of gas distribution pipelines.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G203 Distribution pipeline testing commission and decommission **B**

G 3.2.1 Consult appropriate persons to coordinate work and persons in a Gas Industry workplace

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons for Gas Industry pipelines (Distribution), indicated by the following:

- personnel requirements for an order
- reporting structures for equipment faults and dangerous work
- communication with appropriate persons, customers and third parties
- strategies to facilitate coordination or work with other persons
- requirements for and use of qualified specialists.

G 3.2.2 Obtain and check materials, tools and equipment necessary to complete the work

Evidence shall show an understanding of the checking of materials and tools to complete work on Gas Industry pipelines (Distribution), indicated by the following:

- Relevant OHS and environmental requirements in relation to obtaining and organising required materials
- Understanding of component specifications/tools and equipment for application
- Correctly follow procedures to identify pipes, fittings, purge substances
- equipment correctly interpreted and apply purge volume and time tables and charts

G 3.2.3 Develop plans for commissioning and decommissioning

Evidence shall show an understanding of the preparation of plans for commissioning and decommissioning for gas industry pipelines (Distribution), indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Preparation of plans that consider non-routine procedures or unplanned events
- Preparation of plans that are logical in sequence
- Preparation of plans that include purge procedures
- Preparation of plans that ensure security of supply

G 3.2.4 Liaise and communicate with relevant authorities

Evidence shall show an ability to liaise with relevant authorities in preparation of plans for commissioning/decommissioning Gas Industry pipelines (Distribution), specifically:

- Legislative, OHS and environmental requirements applicable to a specific commissioning/decommissioning of a pipeline
- Authorities that need to be contacted when planning the commissioning/decommissioning of pipeline
- Requirements and procedures to obtain approvals/permits from relevant authorities
- Requirements for advising relevant authorities of intended activities
- Accurate and complete records of all communications with relevant authorities

G 3.2.5 Take distribution pipeline offline and bring distribution pipeline on-line

Evidence shall show an understanding of how to take the distribution pipeline system off line for decommissioning and bring online for the commissioning or recommissioning of Gas Industry pipelines (Distribution), specifically:

- Identify environmental and safety hazards, assess risks and implement control measures
- Undertake procedures for establishing and maintaining a safe workplace to relevant OHS and environmental requirements
- Notify affected customers in accordance with procedures
- Apply relevant procedures for bringing/taking pipeline system on/off line.
- Apply site emergency procedures ensuring they are reviewed and are current
- Undertake procedures for fitting bypass apparatus

ensuring continuity of supply

- Undertake Stopping Off and Isolation of Pipelines using internal and external stop off equipment.
- Undertake procedures for purging the pipe system using a variety of media and testing procedures
- Undertake procedures for testing and sealing of pipelines

G 3.2.6 Monitor and respond to anomalies whilst commissioning and/or decommissioning operations

Evidence shall show an ability to make the required system adjustments for commissioning/ decommissioning of a Gas Industry pipelines (Distribution), indicated by the following:

- Identify Environmental and Safety Hazards, assess risks and implement control measures
- analyse effect of activities on Distribution System
- undertake monitoring of system pressure at appropriate locations depending on network design and operating conditions
- follow procedures for regulating and maintaining system pressures during commissioning and decommissioning activities
- respond to equipment faults and deficiencies in accordance with procedures.

G 3.2.7 Prepare reports

Evidence shall show an understanding of the preparation of reports applicable to the commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Apply procedures and legislative requirements for maintaining appropriate reporting and recording systems
- Complete job records and process information to appropriate/relevant department
- Recorded non-conformances and incidents including customer outages in accordance with procedures and legislative requirements.

G 3.2.8 Select and use appropriate tools and equipment to test the pipeline system in accordance with procedures and legislative requirements

Evidence shall show an understanding of the selection and use of the appropriate tools and equipment to test pipeline systems in accordance with the appropriate procedures and legislative requirements, indicated by the following:

- Appropriate tools and equipment to use for testing

pipeline systems

- Use of appropriate test equipment and test substances to accurately test, adjust, calibrate and repair systems
- Interpreting test results to determine appropriate action
- Records of all test results in accordance with procedures and legislative requirements

G 3.2.9 Undertake final inspections

Evidence shall show an understanding of the inspection process in commissioning and decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Identification of the code requirements that must be met
- Follow procedures to monitor valves and regulators
- Follow procedures and assess the quality of work

G 3.2.10 Notify completion of work

Evidence shall show an understanding of the evidence required for the notification of the completion of work in the commissioning/decommissioning of Gas Industry pipelines (Distribution), indicated by the following:

- Complete and process documentation when the work is completed
- Notify appropriate authorities/councils in relation to site reinstatement requirements using appropriate documentation
- Record and complete amendments to drawings and plans as required
- Record and report system condition in accordance with procedures.
- Sign off risk assessments and work permits as required by procedures

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Unit and shall be used in conjunction with all components parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit 9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also comprise.

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
 - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
 - Demonstrate an appropriate level of employability skills
 - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below. Complete Groups A and B. Complete 1 of the following Group: C, D. Complete 2 of the following Group: E, F, G, H. Complete Groups I, J, K.

Range of tools/equipment/procedures/workplace		
Group	The minimum number	Item List

No	of items on which skill is to be demonstrated	
A	All	<p>Interpret technical drawings and symbols</p> <p>Ensure emergency response procedures in place</p> <p>Communicate with other authorities and stakeholders</p> <p>Communicate schedules/coordinate to persons</p> <p>Carry out job safety analysis</p> <p>Obtain work permit</p> <p>Use and interpret Dial Before You Dig report or its equivalent</p>
B	At least 3	<p>Excavation</p> <p>Trenching</p> <p>Shoring</p> <p>Stitch bore</p> <p>Horizontal drilling</p> <p>Directional drilling</p>
C	At least 3	<p>Connection of nylon to other materials</p> <p>Nylon (polymide) pipeline laying techniques</p> <p>Nylon gluing</p> <p>Nylon stop off</p>
D	At least 4	<p>PE pipeline laying techniques</p> <p>Large diameter PE</p> <p>PE electro fusion</p> <p>PE butt fusion</p>

		<p>Socket fusion</p> <p>PE stop off</p> <p>Compression couplings or flanges</p> <p>Connection of PE to other materials</p> <p>Practical application of AS3723 Installation and maintenance of plastic pipe systems</p>
E	At least 4	<p>UPVC pipeline laying techniques</p> <p>UPVC solvent cemented joints</p> <p>UPVC moulded joints</p> <p>UPVC stop off</p> <p>UPVC couplings or flanges</p> <p>Connection of UPVC to other materials</p> <p>Practical application of AS3723 Installation and maintenance of plastic pipe systems</p>
F	At least 2	<p>Steel pipeline coating repair</p> <p>Steel pipeline coating testing</p> <p>Steel, field joint coating</p>
G	At least 3	<p>Connection of steel to other materials</p> <p>Sleeve application</p> <p>Clamp application</p> <p>Hot tap and stopple</p>
H	All	<p>Connection of copper to other materials</p> <p>Silver brazing</p> <p>Copper bending</p>

I	All	Isolate, vent and purge gas pipeline systems Working knowledge of AS2865/relevant confined spaces code of practice Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
J	At least 2	High pressure stop off 312 Bagtube Squash off jacks/pliers
K	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in commissioning and decommissioning gas distribution pipelines.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

Method of assessment

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 ‘Assessment Guidelines’.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

UEGNSG102B Carry out work activities in a utilities industry

work environment

UEENEEE101 A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEGNSG104B Comply with environmental policies and procedures

UEGNSG105B Establish the work site

BSBFLM312B Contribute to team effectiveness

BSBFLM303C Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to commissioning/decommissioning distribution pipelines.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Appropriate persons (3)

Tools, Materials and Equipment (3)

Appropriate authorities (3)

Pipeline systems (3)

Documentation (3)

Tools, materials and equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Distribution.