



Australian Government

UEGNSG344A Commission or decommission gas transmission pipelines

Release 1

UEGNSG344A Commission or decommission gas transmission pipelines

Modification History

This unit replaces the UEGNSG304B Commission or decommission gas transmission pipelines

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers the commissioning and decommissioning of gas transmission pipelines in accordance with relevant legislation, standards, codes and established procedures.

It encompasses fundamentals of commissioning/decommissioning in accordance with Australian Standard AS2885; relevant legislation controls; planning, undertaking and completing an activity; enterprise procedures; and stakeholder and record management.

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to any safe work site where gas transmission operations occur, subject to all Workplace Health and Safety (WHS)/Occupational Health and Safety (OHS) and duty of care requirements being met for the workplace.

This unit is intended as an entry level AQF 3 competency for new entrants in the gas industry. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice 3)

During Training:

Competency development activities are subject to regulations directly related to licensing, occupational health and safety and where applicable contracts of training such as apprenticeships.

In the workplace:

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

Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment. Other conditions may apply to this competency under State and Territory legislative and regulatory requirements.

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:

UEGNSG141A Apply Workplace Health and Safety regulations, codes and practices in the gas industry

Prerequisite Unit(s) 4)

UEGNSG005A	Prepare to work in the Australian gas industry
UEGNSG006A	Use a portable gas detectors to locate escape
UEGNSG132A	Carry out basic work activities in a gas industry work environment
UEGNSG140A	Apply environmental policies and procedures in the utilities industry
UEGNSG134A	Establish a utilities infrastructure work site

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
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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 to commission/decommission gas transmission 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 WHS/OHS and environmental measures for the sites are identified, obtained and understood.</p> <p>1.3 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites</p> <p>1.4 WHS/OHS, environmental and sustainable energy policies and procedures are obtained and confirmed and communicated</p> <p>1.5 Work is prioritised and sequenced by management following consultation with others for completion within acceptable timeframes and in accordance with established procedures</p> <p>1.6 Hazards are identified, WHS/OHS risks are assessed and control measures are prioritised, implemented and monitored against the work schedule and established procedures.</p> <p>1.7 Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established procedures</p>

ELEMENT	PERFORMANCE CRITERIA
1.8	Scope of responsibility under the relevant work permit/authorization is received and confirmed with relevant persons according to requirements and established procedures
1.9	Resources including persons, equipment, tools, materials, plans, specifications and personal protective equipment required to carry out the work are identified, scheduled and obtained and checked for operation and safety
1.10	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
1.11	Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work by management
1.12	Pipeline in check for readiness (cleaned, pigged, bypassed, etc.) for commissioning/ decommissioning
1.13	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
1.14	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed in accordance with established procedures
1.15	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2 Commission/decommission gas transmission pipelines	<p data-bbox="539 1671 1260 1783">2.1 WHS risk control measures, schedule of work and standard operating procedures for carrying out the work are followed</p> <p data-bbox="539 1863 1232 1968">2.2 Appropriate materials, tools, equipment and measuring devices are selected and used correctly and safely.</p>

ELEMENT**PERFORMANCE CRITERIA**

- 2.3 Hazardous activities such as lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are conducted safely accordance with given instructions and requirements
- 2.4 Commissioning/ decommissioning of gas transmission pipelines is carried out efficiently in an agreed timeframe and to required standards with a minimum of waste of materials or damage to apparatus, circuits, the surrounding environment or services and using sustainable energy principles
- 2.5 Commissioning/decommissioning of gas transmission pipelines is carried out in accordance with the work schedule and to requirements/established procedures
- 2.6 Hazard warnings and safety signs are recognised and hazards are assessed and WHS/OHS risks and incidents are reported to the immediate authorised persons for directions according to established procedures
- 2.7 Adjustments are made for unplanned events in commissioning/decommissioning of gas transmission pipelines are undertaken within the scope of established procedures
- 2.8 Procedures for referring non-routine events to the immediate authorised persons for directions are followed
- 2.9 Reports and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures

ELEMENT	PERFORMANCE CRITERIA
3 Complete work and relevant documentation	3.1 WHS/OHS risk control work completion measures and procedures are followed
	3.2 Tools and equipment appropriate to the testing requirements are selected and work undertaken is checked against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.3 Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.4 Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.5 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and stored securely in accordance with established procedures
	3.6 Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
	3.7 Final inspections are undertaken and work completion documentation is finalised and processed accurately and provided to appropriate persons in accordance with established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) *This describes the skills and knowledge and their level, required for this unit.*

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

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies. The extent of the Required Skills and Knowledge required is provided below. It forms an integral part of this unit.

KS01-G344A Transmission pipeline commissioning and decommissioning

Evidence shall show an understanding of commissioning and de-commissioning gas transmission pipelines in accordance with relevant legislation, standards, codes and established procedures to an extent indicated by the following aspects:

T1. Legislative, standards, codes and OHS and environmental requirements

- requirements for and use of qualified specialists
- establishing the appropriate worksite

T2. Site preparation

- identify equipment, pipes, fittings, purge substances
- pipeline and component specifications
- apply purge volume and time tables and charts

T3. Environmental and safety hazards

- risks and control measures
- site emergency procedures

T4. Fundamentals of pipeline commissioning/decommissioning

- Purpose
- Bring pipeline systems online, taking systems offline
- Purging the pipe system
- Ensuring security of supply
- Testing and sealing of pipes
- Fit bypass apparatus
- Regulating and monitoring system pressure
- Hazards and risks

T5. Tools and test equipment for commissioning and decommissioning

- Types, applications, use, handling, maintenance and storage

REQUIRED SKILLS AND KNOWLEDGE

T6. Testing, adjusting, calibrating and repairing systems

- requirements procedures, precautions

T7. Enterprise procedures for de-commissioning

- bringing/taking pipeline system on/off line
- effect on distribution system
- fitting bypass apparatus ensuring continuity of supply
- stopping off and isolation of pipelines using internal and external stop off equipment
- monitoring of system pressure at appropriate locations depending on network design and operating conditions
- regulating and maintaining system pressures
- test and verify

T8. Enterprise procedures for commissioning

- checking pipework is ready (tested, pigged, etc.)
- purging the pipe system using a variety of media and testing procedures
- testing and sealing of pipelines,
- odour level requirements
- effect on distribution system
- monitoring of system pressure at appropriate locations depending on network design and operating conditions
- regulating and maintaining system pressures
- equipment faults
- test and verify

T9. Stakeholder and record management

- Communications and approvals
- Recording and reporting

Evidence Guide

EVIDENCE GUIDE

8) 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 8.1)

Assessment

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 8.2)

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

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

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
 - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
 - Demonstrate an understanding of the required knowledge and 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, policies and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.
 - Commission and de-commission gas transmission pipelines as described in 9.) Range Statement and including:

Range of tools/equipment/procedures/workplace		
Gro up No	The minimum number of items on which skill is to be demonstrated	Item List
A	All	<ul style="list-style-type: none"> • Relevant knowledge of AS 1697 • Relevant knowledge of AS 2885 • Relevant knowledge of AS

		<p>2865</p> <ul style="list-style-type: none"> • Interpret technical drawings and symbols. • Documentation complete/correct • Approvals from authorities complete/correct. • Emergency Response procedures • Environmental Code of Practice applied. • Communicate with other authorities and Stakeholders.
B	At Least 2	<ul style="list-style-type: none"> • Steel pipeline coating repair • Steel pipeline coating testing • Steel field joint coating
C	All	<ul style="list-style-type: none"> • Purging Procedures • Compliance with AS 2885 • Operation of Gas Detector • Isolate, vent and purge gas pipeline systems • Communication with authorities • Environmental issues.
D	At Least 2	<ul style="list-style-type: none"> • City Gate operation (Pressure Regulator knowledge) • Line Valve operation • Pressure control procedure
E	All	<ul style="list-style-type: none"> • Basic understanding only: • Trenching • Shoring
F	All	<ul style="list-style-type: none"> • Basic understanding only: • Pipeline Cathodic Protection. • Relevant electrical safety.
G	All	<ul style="list-style-type: none"> • Pressure is according to specifications • Final Inspections are carried out • Site rehabilitation carried out • Sign Off Procedures carried out
H	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated

		in the holistic assessment with the above listed items
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Context of and specific resources for assessment 8.3)

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.

These should be part of the formal learning/assessment environment

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

Method of assessment 8.4)

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 Required Knowledge and 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 required knowledge and associated

skills described in this unit.

**Concurrent
assessment and
relationship
with other units**

8.5)

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.

- UEGNSG132A Carry out basic work activities in a gas industry work environment
- UEGNSG141A Apply Workplace Health and Safety regulations codes and practices in the gas industry
- UEGNSG140A Apply environmental policies and procedures in the utilities industry
- UEGNSG134A Establish a utilities infrastructure work site
- BSBFLM312B Contribute to team effectiveness
- BSBFLM303C Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

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

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

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

- Appropriate Persons
- Tools, Materials and Equipment
- Appropriate Authorities
- Pipeline Systems
- Documentation
- Tools, materials and equipment

Unit Sector(s)

Gas Industry

Competency Field

Competency Field 11)

Transmission.