



Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG305B Coordinate gas transmission pipeline repair and modifications

Release: 1

UEGNSG305B Coordinate gas transmission pipeline repair and modifications

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the coordination of gas transmission pipeline repair and modifications. Inspection and testing techniques are included for this competency standard. It encompasses identifying and attending to leaks which may be classified into Class 1 — repair until completed; Class 2 — repair within 8 days; Class 3 monitor, repair not economic; Class 4 — no leak found and includes coordinating and where appropriate undertaking the repair, modification and minor maintenance of equipment.

Application of the Unit

Application of the Unit 2)

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

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit are not

License to practice**3)**

subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of persons who can operate certain equipment.

Pre-Requisites**Prerequisite Unit(s)****4)****Competencies****4.1)**

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

Nil

Literacy and numeracy skills**4.2)**

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

Reading 3 Writing 3 Numeracy 3

Employability Skills Information**Employability Skills****5)**

This unit contains Employability Skills

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

Elements and Performance Criteria Pre-Content

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

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and plan for coordination of repairs and modifications of a gas transmission pipeline	1.1 Information concerning the identified repair/modification is conveyed to all parties and work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection 1.2 Necessary plans, specifications and other relevant information and established procedures for the work are communicated to all persons and identified for all work sites 1.3 OHS, environmental and sustainable energy policies and procedures related to the coordinating of gas transmission pipeline repairs and modifications are obtained and confirmed for the purposes of the work performed and communicated 1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures 1.5 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures 1.6 Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and established

ELEMENT	PERFORMANCE CRITERIA
	procedures
	1.7 Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8 Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10 Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11 Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12 Road signs, barriers and warning devices are positioned in accordance with requirements
2 Coordinate pipeline repairs or modifications for gas transmission pipelines and notify completion of work	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 Lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.3 Essential Knowledge and Associated Skills is applied to the coordinating of gas transmission pipeline repairs and modifications to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements

ELEMENT	PERFORMANCE CRITERIA
3 Re-establish transmission pipeline to operational conditions and notify completion of work	2.4 Coordination of gas transmission pipeline repairs and modifications is carried out in accordance with the work schedule and to established procedures
	2.5 Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6 Repair work is monitored and unplanned events and amendments and modifications in the coordinating pipeline repair and modifications are undertaken with the scope of established procedures
	2.7 Known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills
	2.8 All required testing procedures are followed and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
	3.1 System is re-established in order to meet transmission pipeline requirements and the work undertaken is checked against works schedule for conformance with requirements, anomalies are reported in accordance with established procedures
	3.2 Accidents and injuries are reported in accordance with established procedures where applicable
	3.3 Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures
	3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
	3.5 Relevant work permit(s) are signed off and equipment is returned to service in accordance

ELEMENT**PERFORMANCE CRITERIA**

with requirements

- 3.6 Records and drawings are updated to reflect repair/modifications and work completion records, reports as installed and documentation finalised and processed and appropriate persons notified

Required Skills and Knowledge**REQUIRED SKILLS AND KNOWLEDGE**

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

Evidence shall show that knowledge has been acquired of safe working practices for the coordination of gas transmission pipeline repair and modifications.

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

**KS01-
G305B****Transmission pipeline repair and modification**

- G 3.3.11 Prepare for testing and inspection of pipeline system
Evidence shall show an understanding of the requirements to test and inspect a Gas Industry pipeline (Transmission) system, indicated by the following:
- procedures and the OHS and environmental requirements to be applied when carrying out testing and inspection on pipeline systems
 - properties and characteristics of gas relevant to testing and inspection procedures
 - classification of leaks and the relevant procedures associated with each class of leak.
- G 3.3.12 Select and use appropriate tools and equipment to inspect and test the pipeline system in accordance with procedures and legislative requirements
Evidence shall show an understanding of the selection and use of appropriate tools and equipment required to undertake the testing of a Gas Industry pipeline (Transmission) system, indicated by the following:

- various testing and inspection methods and their appropriate applications
- appropriate use of test and inspection equipment
- procedures to ensure that supply pressure is maintained
- procedures required to monitor gaseous atmosphere.

G 3.3.13 Record and interpret test data

Evidence shall show an understanding of the requirements to record and interpret test data for a Gas Industry pipeline (Transmission), indicated by the following:

- information that must be documented on completion of testing/inspection procedures
- diagnose and assess pipeline faults using test data
- analyse and interpret test data to initiate appropriate action
- use test data to correctly classify leaks for prioritising repairs
- requirements and procedures for advising relevant persons about test/inspection outcomes.

G 3.3.14 Monitor pipeline system during repair work

Evidence shall show an understanding of the requirements to monitor pipeline system during repair work on a Gas Industry pipeline (Transmission), indicated by the following:

- identification of the requirements to establish and maintain safe site conditions in accordance with procedures, environmental and OHS requirements
- procedures to conduct pressure monitoring
- manufacturer's maintenance specifications
- procedures to coordinate resources and prevent stoppages during repair work
- monitor impact of the work on environment, people and surrounds.

G 3.3.15 Carry out repair work and make amendments or modifications as required

Evidence shall show an understanding of the requirements to carry out repair work and to make amendments or modifications as necessary on a Gas Industry pipeline (Transmission), indicated by the following:

- procedures, OHS and environmental requirements in relation to carrying out repair work
- conduct repair work with required tools and equipment following appropriate work procedures
- procedures to follow when evaluating and implementing amendments or modifications

- job progress in relation to repair work and/or amendments or modifications
- procedures to assess quality of work and compliance with procedures, legislative and environmental requirements.

G 3.3.16 Re-establish system and restore site

Evidence shall show an understanding of the reestablishment of the system and the restoration of the site on a Gas Industry pipeline (Transmission), specifically:

- confirm that repairs and modifications are completed
- demonstrate that procedures to re-establish the pipeline conditions are to full operational capabilities
- discuss the persons that need to be notified in relation to system reestablishment
- issue permits where required
- restore site in compliance with environmental, legislative and operational requirements.

G 3.3.17 Maintain records

Evidence shall show an understanding of the maintaining of records for the repair and modification of Gas Industry pipelines (Transmission), indicated by the following:

- identification of the documentation and information that is to be recorded
- completion and processing of job records and drawings accurately and in accordance with procedures.

G 3.3.18 Obtain information relevant to pipeline repair and modification

Evidence shall show an understanding of the need to obtain information relevant for the processes involved in the repairing or modification of Gas Industry pipelines (Transmission), indicated by the following:

- identification of problems from relevant information sources
- relevant documentation which includes plans, drawings, maps and specifications
- documentation to determine repair/modification information, including affect on customer supply, extent of repair and quantities of items required.

G 3.3.19 Liaise and communicate with relevant parties

Evidence shall show an understanding of how to liaise and communicate with relevant parties involved in the repairing or modification of Gas Industry pipelines (Transmission), indicated by the following:

- discussion of the parties that require notification of

repairs/modifications

- identification of specialists required for repair/modification work
- procedures to determine relevant areas of responsibilities
- issues that impact on communication with affected parties and appropriate persons.

G 3.3.20 Prepare work site for repairs/modifications work

Evidence shall show an understanding of the preparation of Gas Industry workplaces for repairs/modifications work, indicated by the following:

- legislative, OHS and environmental requirements relevant to establishing and maintaining a safe workplace
- options for maintaining supply
- procedures for locating other services on the worksite
- identification of possible ignition sources and the taking of appropriate action
- risk assessments of the worksite including OHS risks
- requirements for consulting relevant authorities and obtaining required approvals
- procedures for the coordination of all activities and persons
- maintenance of accurate and complete records of all communications with relevant authorities and persons.

G 3.3.21 Organise required equipment, materials and persons

Evidence shall show an understanding of the requirements to organise equipment, materials and persons as required for a Gas Industry pipeline (Transmission), indicated by the following:

- procedures and legislative requirements relevant to obtaining equipment and materials
- interpretation of documentation to ensure correct equipment and materials are specified
- coordination of the deployment of required equipment, materials and persons on a worksite.

Evidence Guide

EVIDENCE GUIDE

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

Overview of Assessment

9.1)

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

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

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

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

Guidelines of this Training Package.

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

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

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

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

Range of tools/equipment/procedures/workplace		
Group	The minimum number of items on which skill	Item List

No	is to be demonstrated	
A	All	Relevant knowledge of AS 1697 Relevant knowledge of AS 2885 Relevant knowledge of AS 2865 Interpret technical drawings and symbols Documentation (permits, schedules) Risk assessment implemented Implementation of Safety Procedures Able to communicate instructions/schedules Approvals from authorities Emergency Response procedures Environmental Code of Practice applied Communicate with other authorities and Stakeholders
B	At Least 2	Basic knowledge of: Steel pipeline coating repair Steel pipeline coating testing Steel field joint coating
C	All	Purging a pipeline: Purging Procedures Relevant compliance with AS 2885 Operation of Gas Detector Isolating, venting and purging gas pipeline systems Communication with authorities Related environmental issues
D	At Least 2	Basic knowledge only:

		City Gate operation. Line Valve operation Pressure control procedure
E	All	Basic understanding only: Trenching Shoring
F	All	Basic understanding only: Pipeline Cathodic Protection. Relevant electrical safety
G	All	Re-commission pipeline. Pressure control procedure All testing of repairs checked/completed Pressure is according to specifications
H	All	Final Inspections are carried out Site rehabilitation/reinstatement carried out Drawings/plans updated Reports completed Sign Off Procedures carried out
I	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment 9.3)

This unit contains Employability Skills

This unit should be assessed as it relates to normal work practice

using procedures, information and resources typical of a workplace. This should include:

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

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in coordinating gas transmission pipeline repair and modifications.

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

Method of assessment

9.4)

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

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

Concurrent assessment and relationship with other units

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with

allied Competency Standard Units where listed.

UEGNSG102B Carry out work activities in a utilities industry
work environment

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

UEGNSG104B Comply with environmental policies and
procedures

UEGNSG105B Establish the work site

BSBFLM312B Contribute to team effectiveness

BSBFLM303C Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

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

This Competency Standard Unit shall be demonstrated in relation to coordinating gas transmission pipeline repair and modifications.

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

Inspection and testing techniques (3)

Leaks (3)

Repair and maintenance equipment(3)

Repair/modification techniques (3)

Documentation/records (3)

Tools, materials and equipment

Pipeline systems

Pipeline control systems

Appropriate authorities

Appropriate person

Unit Sector(s)

Not applicable.

Competency Field

Competency Field 11)

Transmission.