



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **UEGNSG208B Gas distribution pipeline surveillance**

**Release: 1**

## UEGNSG208B Gas distribution pipeline surveillance

### Modification History

Not applicable.

### Unit Descriptor

#### Unit Descriptor

#### 1) Scope:

##### 1.1) Descriptor

This Competency Standard Unit covers the surveillance of gas distribution pipelines. The competency standard is applied against the procedures found for the surveillance of gas distribution pipelines. The competency standard outlines the areas to be monitored; inspection of areas; system's pipe work; structures; fittings; equipment; organisational and statutory requirements and recording and reporting.

### Application of the Unit

#### Application of the Unit 2)

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

### Licensing/Regulatory Information

#### License to practice 3)

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety,

**License to practice****3)**

gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of those who can operate certain equipment.

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

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

Nil

**Literacy and numeracy skills****4.2)**

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

Reading 3      Writing 3      Numeracy 3

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

This unit contains Employability Skills

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

## Elements and Performance Criteria Pre-Content

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

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Monitor gas distribution pipeline system performance	<p>1.1 Routine inspection of network is conducted and faults reported in a timely manner against work schedule(s) and established procedures and confirmed if necessary by site inspection</p> <p>1.2 Relevant requirements and established procedures for the work are communicated to all persons</p> <p>1.3 OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for gas distribution pipeline surveillance are obtained and confirmed for the purposes of the work performed and communicated</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, isolate/de-energise systems and perform work according to requirements and established procedures</p> <p>1.7 Resources including persons, equipment, tools and personal protective equipment required for gas distribution pipeline surveillance are identified, scheduled and obtained and confirmed in working order</p>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	1.8 Liaison and communication issues with authorised persons, authorities and clients are resolved to carry out work where necessary
	1.9 Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
2 Identification of gas distribution pipeline system non-conformance	2.1 Analysis of information to identify key issues is undertaken as required and information is evaluated for relevance and validity to the requirements
	2.2 Dealings with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
	2.3 Essential Knowledge and Associated Skills for the gas distribution pipeline surveillance is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.4 Leakages and damaged pipes and fittings are recorded in accordance with the work schedule and established procedures
	2.5 Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the authorised persons for directions according to established procedures
	2.6 Unplanned events in gas distribution pipeline surveillance are undertaken with the scope of established procedures
	2.7 System faults and the operational condition of the network are identified and reported and known solutions are applied using acquired Essential Knowledge and Associated Skills
	2.8 Pressure and flow fluctuations outside acceptable limits are investigated and ongoing checks of work quality are undertaken in

ELEMENT	PERFORMANCE CRITERIA
3 Review, record and report on gas distribution pipeline surveillance work	accordance with given instructions and established procedures
	3.1 Solutions are developed based on consideration of relevant information and options and proposed solutions are communicated and implemented as required against works schedule and anomalies reported in accordance with established procedures
	3.2 Accidents and injuries are reported in accordance with requirements and established procedures where applicable
	3.3 Solution is implemented in accordance with standard operating procedures ensuring that action is correctly documented, the transaction is accurately processed and the customer is advised
	3.4 Patrol log and work completion records, reports and documentation are finalised and processed and appropriate personnel notified

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

Evidence shall show that knowledge has been acquired of safe working practices for the gas distribution pipeline surveillance investigation of billing exceptions/conditions.

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

### KS01-G208 Distribution pipeline surveillance B

G 3.2.1 Consulting appropriate persons to coordinate work and persons

Evidence shall show an understanding of consulting

appropriate persons to coordinate work and persons for Gas Industry pipelines (Distribution), indicated by the following:

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

#### G 3.2.4 Liaise and communicate with relevant authorities

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

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

#### G 3.2.7 Prepare reports

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

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

#### G 3.2.9 Undertake final inspections

Evidence shall show an understanding of the inspection process in commissioning and 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 of completion of work

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

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

#### G 3.2.15 Conduct repairs and make amendments or modifications as required

Evidence shall show an understanding of the requirements to conduct repairs and make amendments or modifications as necessary on a Gas Industry pipeline (Distribution) systems, indicated by the following:

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures
- Conduct repairs with appropriate tools and equipment according to established work procedures
- Comply with procedures when evaluating and implementing amendments or modifications
- Comply with procedures to assess the quality of work and ensure compliance with procedures, legislative and environmental requirements

#### G 3.2.20 Prepare work site for repairs/modification work

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

- Identify environmental and safety hazards, assess risks and implement control measures
- Interpret and apply enterprise policies and procedures



- Determine strategies for maintaining supply
- Comply with procedures for locating services on the worksite
- Identify and control possible sources of ignition
- Identify communications protocols and requirements
- Prepare procedures for the coordination of site activities
- Maintain records of communications with relevant third parties

#### G 3.2.50 Distribution pipeline surveillance procedures and practices

Evidence shall show an understanding of the requirements for the surveillance of distribution pipeline procedures and practices, indicated by the following:

- pipeline risk and how risk is treated
- above ground versus below ground pipe
- protection measures such as slabbing, extra cover, warning signage
- third party activities near pipe
- rural areas versus built-up areas in which a pipeline is located
- proximity to environmental significant areas
- leak detection
- pipeline coating integrity
- regularity of use
- type of fluid carried by the pipe and its design and operating pressure and temperature
- knowledge of Gas Industry legislation and its role under Road Management Act
- knowledge of easements and access rights for patrol men
- types of other fitting other than pipes that need monitoring, ie valves, CPS equipment etc
- knowledge of asset owner technical standards, ie clearances, use of explosives, hand proving, permit procedures, vegetation, fencing etc
- variation in surface condition
- impediments to access along a route
- building encroachment (clearances)
- issue of written patrolling procedures.

#### G 3.2.57 Perform routine maintenance on pipelines, facilities and equipment (up to and including 1050kPa)

Evidence shall show an understanding of performing routine maintenance on pipelines, facilities and equipment for a Gas Industry pipelines (Distribution), indicated by the following:

- Demonstrate different types of maintenance procedures appropriate for pipelines, facilities and equipment which includes valves, filters, meters and regulators, pressure reliefs, flanges and fittings, markers and signs
- Undertake maintenance procedures relevant to required work
- Use tools, instruments and all other equipment safely and effectively during the required maintenance tasks
- Undertake routine maintenance following manufacturer's specifications OHS requirements and procedures in an efficient and effective manner.

## Evidence Guide

### EVIDENCE GUIDE

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

#### Overview of Assessment 9.1)

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

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

The critical safety nature of working with electricity, electrical

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

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

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

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

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

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

<b>Range of tools/equipment/procedures/workplace</b>		
<b>Group No</b>	<b>The minimum number of items on which skill is to be demonstrated</b>	<b>Item List</b>
A	All	<p>Operation of Dial Before You Dig (MOCS) services and how it applies to working or its equivalent near gas assets</p> <p>Different types of surveillance, i.e. vehicle, foot, aerial, watercraft</p> <p>Liaison with affected landowners and relevance of property visits</p> <p>Deteriorating conditions, i.e. visibility, warning signage</p>

		Identification of leaks, damaged pipes and fittings and the recording of these in accordance with established procedures
B	All	Inspection techniques Identifying faults Recording information
C	All	Operating hand held tools Operating power tools Lifting equipment Mechanical excavation equipment Electronic metering systems Recording systems Motorised equipment Communication equipment
D	All	Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures Apply job safety analysis Apply working knowledge of AS2865 Maintain a safe and clean workplace Apply safe manual handling techniques Respond to emergency situations Communicate effectively in the workplace Apply basic planning and job completion skills Use of technology

E	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items
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**Context of and specific resources for assessment** 9.3)

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

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

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

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

**Method of assessment** 9.4)

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

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment

and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

**Concurrent  
assessment and  
relationship with  
other units**

**9.5)**

UEGNSG102B Carry out work activities in a utilities industry work environment

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

UEGNSG104B Comply with environmental policies and procedures

UEGNSG105B Establish the work site

BSBFLM312B Contribute to team effectiveness

BSBFLM303C Contribute to effective workplace relationships

## Range Statement

### RANGE STATEMENT

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

This Competency Standard Unit shall be demonstrated in relation to gas pipeline surveillance.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section.

Areas to be monitored

Inspection of areas

System's pipe work

Structures

Fittings

Organisational and statutory requirements (3)

Recording and reporting

## Unit Sector(s)

Not applicable.

## Competency Field

**Competency Field**            **11)**

Distribution.