



**Australian Government**

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

# **UEGNSG329A Gas transmission pipeline surveillance**

**Release: 1**

## UEGNSG329A Gas transmission pipeline surveillance

### Modification History

Not applicable.

### Unit Descriptor

#### Unit Descriptor

#### 1) Scope:

##### 1.1) Descriptor

This Competency Standard Unit covers the surveillance of Gas Industry pipelines. The competency standard is applied against the procedures found under AS 2885.3 — 2001 Australian and New Zealand Standard. The competency standard also refers to threat mitigation through identification of system non-conformance. 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

**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 Monitor gas 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 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 prioritised, implemented 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 pipeline surveillance are identified,</p>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	scheduled and obtained and confirmed in working order
	1.8 Liaison and communication issues with authorised persons, authorities and clients are resolved and activities coordinated to carry out work
	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 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 pipeline surveillance are 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 are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.6 Unplanned events in 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 Essential Knowledge and Associated Skills

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	2.8 Pressure and flow fluctuations outside acceptable limits are investigated and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures
3 Review, record and report on gas pipeline surveillance work	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 Work completion records, reports and documentation 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 carrying out work in a gas industry environment.

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

### KS01-G329 Transmission pipeline surveillance

#### A

#### G 3.3.1 Consulting appropriate persons to coordinate work and persons

Evidence shall show an understanding of consulting appropriate persons to coordinate work and persons on Gas Industry pipeline (Transmission) systems, indicated by the following:

- personal 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 3.3.4 Liaise and communicate with relevant authorities

Evidence shall show an understanding of liaising with the relevant authorities in relation to Gas Industry pipelines (Transmission), indicated by the following:

- 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 3.3.7 Prepare reports

Evidence shall show an understanding of the preparing of reports applicable to Gas Industry pipelines (Transmission), indicated by the following:

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

#### G 3.3.9 Undertake final inspections

Evidence shall show an understanding of undertaking the inspection of Gas Industry pipelines (Transmission), indicated by the following:

- identification of the code requirements that must be met
- procedures to monitor electrical and electronic systems and valves and regulators
- procedures to follow and assess the quality of work.

#### G 3.3.10 Notify of completion of work

Evidence shall show an understanding of the notification of completion of work procedures in Gas Industry pipelines (Transmission), indicated by the following:

- documentation to be completed and processed when the work is completed
- authorities/councils that need to be notified in relation to site reinstatement
- recording and reporting system accurately and in accordance with procedures.

#### 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 3.3.20 Prepare work site for repairs/modification 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 3.3.36 Perform routine maintenance on high pressure pipelines, facilities and equipment

Evidence shall show an understanding of the requirements to undertake the routine maintenance on high pressure pipeline, facilities and equipment, indicated by the following:

- different types of maintenance procedures appropriate for high pressure pipelines, facilities and equipment
- maintenance procedures relevant to the required work
- tools, instruments and all other equipment that is used safely and effectively during maintenance tasks
- routine maintenance following manufacturer's specification, OHS requirements and procedures in a efficient manner.

## 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

<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	AS 2885.3 Pipelines-Gas and Liquid

		<p>Petroleum Gas Operations and Maintenance: Sections 3, 4.3, 5.3.6.1, 5.4.1, 5.4.3, 5.5</p> <p>Section 6 — Threat Mitigation</p>
B	All	<p>Inspection techniques</p> <p>Identifying faults</p> <p>Recording information</p>
C	All	<p>Operating hand held tools</p> <p>Operating power tools</p> <p>Lifting equipment</p> <p>Mechanical excavation equipment</p> <p>Electronic metering systems</p> <p>Recording systems</p> <p>Motorised equipment</p> <p>Communication equipment</p>
D	All	<p>Work utilising relevant OHS legislation, regulations, codes of practice, policies and procedures</p> <p>Apply job safety analysis</p> <p>Maintain a safe and clean workplace</p> <p>Apply safe manual handling techniques</p> <p>Respond to emergency situations</p> <p>Communicate effectively in the workplace</p> <p>Apply basic planning and job completion skills</p> <p>Use of technology</p>
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 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.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency of ground transmission 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)**

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 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)**  
Transmission.