



Australian Government

UEGNSG349A Carry out surveillance of gas transmission pipelines

Release 1

UEGNSG349A Carry out surveillance of gas transmission pipelines

Modification History

This unit replaces UEGNSG329A Gas transmission pipeline surveillance.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers the ground surveillance of gas transmission pipelines in accordance with relevant legislation, standards, codes and established procedures including the procedures found under Australian and New Zealand Standard AS 2885.3.

It encompasses threat mitigation through identification of system non-conformance; areas to be monitored; inspection of areas; system's pipe work; structures; fittings; equipment; organisational and statutory requirements; and recording and reporting.

Note: Aerial surveillance is not covered by this unit, it is covered by UEGNSG353A Carry out aerial surveillance of gas transmission pipelines

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to gas transmission pipelines, 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 AQF 3 competency for new and existing workers 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/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:

- | | |
|------------|--|
| UEGNSG141A | Apply Occupational Health and Safety regulations, codes and practices in the workplace |
| UEGNSG005A | Prepare to work in the Australian gas industry |
| UEGNSG140A | Apply environmental policies and procedures in the utilities industry |

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 to carry out surveillance of gas transmission pipelines**

- | | |
|-----|--|
| 1.1 | WHS/OHS and environmental measures for the site are identified, obtained and understood. |
| 1.2 | Relevant requirements and established procedures for the work are discussed with relevant persons to establish and confirm the |

ELEMENT	PERFORMANCE CRITERIA
	work schedule
	1.3 WHS/OHS, environmental and sustainable energy policies and procedures are obtained, confirmed and communicated
	1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures and surveillance KPIs
	1.5 Hazards are identified, WHS/OHS risks are assessed and control measures are prioritised, implemented and monitored against the work schedule and established procedures.
	1.6 Scope of responsibility under the relevant work authorization, permit and/or relevant notification are received and confirmed with relevant persons according to established procedures.
	1.7 Resources including plant, equipment, tools and personal protective equipment required for gas pipeline surveillance work are identified, obtained checked for correct operation and safety
	1.8 Liaison and communication issues with authorised persons, authorities and clients are resolved and activities coordinated
	1.9 Persons participating in the work are fully briefed and respective responsibilities confirmed in accordance with established procedures
	1.10 Site preparation, safety plan and the work schedule are confirmed in accordance with established procedures.
2 Carry out surveillance of gas transmission pipelines	2.1 WHS/OHS risk control measures, schedule of work and standard operation procedures for carrying out the work are followed
	2.2 Appropriate materials, tools, equipment and measuring devices are selected and used correctly and safely.

ELEMENT**PERFORMANCE CRITERIA**

- 2.3 Dealings with customers are consistent with standard operating procedures and the special needs of customers are identified and considered in targeting client service
- 2.4 The work carried out efficiently, to the required standard without waste of materials or damage to apparatus, equipment, the surrounding environment or services and using sustainable energy principles
- 2.5 Leakages and damaged pipes and fittings are recorded in accordance with the work schedule and 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 Unplanned events in pipeline surveillance are undertaken within the scope of established procedures
- 2.8 System breaches, faults and the operational condition of the network are identified and reported and known solutions are applied in accordance with established procedures
- 2.9 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
- 2.10 The key issues are identified and required solutions/options are developed, communicated and implemented in accordance with established procedures
- 2.11 Routine quality checks are carried out in accordance with work instructions

ELEMENT	PERFORMANCE CRITERIA
3 Complete work and relevant documentation	3.1 WHS risk control work completion measures and procedures are followed. 3.2 Work area is tidied and made safe according to established procedures 3.3 Tools and equipment are cleaned, checked and securely stored. 3.4 Appropriate persons are notified of the work completion, non-conformances and proposed solutions/options are reported in accordance with established procedures 3.5 Work completion records, reports and documentation are finalized, processed 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 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. The extent of the essential knowledge and associated skills (EKAS) required is provided below. It forms an integral part of this unit.

KS01-G349A Transmission pipeline surveillance

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

T1. OHS and emergency procedures and environmental, cultural and heritage requirements in relation to pipeline surveillance

- Duty of care, risk assessment
- flora, fauna, working outside

T2. Documentation and communication relevant to pipeline surveillance including:

- Topographical and geographical maps (including GPS/GIS information)

T3. Stakeholder rights and responsibilities

T4. Third parties

- land holder engagement
- third party activities
- authorities to stop 3rd party activities
- monitoring of third party civil works including:
 - excavation shoring requirements
 - separation distances
 - flora and fauna control
- third party protection methods

T5. Easements and access rights

- protocols to access to pipeline/easement (including gates)
- impediments to access along easements

T6. Procedures and methods of surveillance

- Information gathering techniques
- Route plans

REQUIRED SKILLS AND KNOWLEDGE

- Foot patrol OH&S and procedures
- Vehicle patrol OH&S and procedures

T7. Overview of pipeline components and their respective functions

- materials
- siphon points
- filtering and separation
- compressor stations
- Signage and gas markers

T8. Field monitoring of pipeline components.

- variation in surface condition, vegetation or fencing etc.
- development encroachment (clearances)
- pipeline fugitive emissions
- identification
- risk assessment.
- first on site remediation

T9. Identification and documentation of potential encroachment

T10. Pipeline risks managed through surveillance

T11. Escalation processes

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 Assessment 8.1)

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 8.2)
of evidence
required to
demonstrate
competency in
this unit**

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
 - Carry out surveillance on gas transmission pipelines as described in 9.) Range Statement and including:
 - A Identifying and interpreting correctly standards, codes, regulations, drawings, diagrams, schedules, procedures and manuals relevant to the work to be undertaken.
 - B Selecting correct materials, equipment, tools, personal protection equipment and measurement devices
 - C Carry out surveillance on gas transmission pipelines, identifying encroachments and risks and taking appropriate action in accordance with requirements
 - D Completing required documentation and reporting.
 - E Dealing with unplanned events by drawing on essential knowledge and skills, procedures/ protocols to provide appropriate solutions incorporated in the holistic assessment with the above listed items, for example encroachment and/or contact with assets

Context of and specific resources for assessment**8.3)**

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**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 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**

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 work basic activities in a gas industry work environment

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 gas transmission 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)

Gas supply industry

Competency Field

Competency Field 10)

Transmission.