



Australian Government

UEGNSG347A Perform routine maintenance on transmission pipeline facilities and equipment

Release 1

UEGNSG347A Perform routine maintenance on transmission pipeline facilities and equipment

Modification History

This unit replaces UEGNSG307B Perform routine maintenance on transmission pipeline facilities and equipment.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers minor routine maintenance of pipeline facilities and associated equipment.

It encompasses using equipment, tools and testing devices; performing routine maintenance; identifying the types of faults; completing the appropriate documentation and reports in accordance with requirements.

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to gas transmission pipeline facilities and equipment, 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:

License to practice

3)

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

In the workplace:

The application of the skills and knowledge described in this unit require a license to practice in the workplace where work is carried out on electrical equipment or installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

The skills and knowledge described in this unit are also subject to licence regulation directly related to Workplace/Occupational Health and Safety, gas/electricity/water industry safety and compliance, industrial relations, environmental protection, telecommunications, anti-discrimination and training.

Note:

Other conditions may apply under State and Territory legislative and regulatory requirements, for example:

Compliance with permits may be required in various jurisdictions and typically relates to the operation of plant, machinery and equipment such as elevating work platforms, powder operated fixing tools, power operated tools, vehicles, road signage and traffic control, lifting equipment.

Permits may also be required for some work environments such as hazardous areas, confined spaces, working aloft, near live electrical devices, site rehabilitation.

Compliance may be required in various jurisdictions relating to currency in First Aid, hazardous areas, confined space, lifting and risk safety measures

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:

- 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 utilities industry work environment
- UEGNSG140A Apply environmental policies and procedures in the utilities industry
- UEGNSG134A Establish a utilities infrastructure work site
- UEGNSG141A Apply Workplace Health and Safety regulations, codes and practices in the gas 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

Employability Skills 5)

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 routine maintenance on transmission pipeline facilities and equipment | 1.1 Work schedule including drawings, plans, requirements, established procedures and material lists are received and checked |
| | 1.2 Relevant technical, WHS/OHS and environmental requirements and established procedures for the work are communicated to all persons and identified for all work sites |
| | 1.3 Work is prioritised and sequenced following consultation with stake holders in accordance with established procedures |
| | 1.4 Hazards are identified, WHS/OHS risks control measures for identified hazards are prioritised, implemented and monitored to achieve as low as reasonably practicable (ALARP) risk level. |
| | 1.5 The facilities/equipment are made safe by ensuring it is safely isolated, depressurised, tagged and locked out and a permit to work is obtained to access and perform work according to established procedures. |

ELEMENT

PERFORMANCE CRITERIA

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| | 1.6 | Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for the job are identified, obtained and checked for safety and operation. |
| | 1.7 | All members of the work party are suitably qualified and experienced to perform the required work activities. |
| | 1.8 | Liaison and communication issues with stakeholders are performed effectively. |
| | 1.9 | Site is prepared according to the work schedule to minimise risk and damage in accordance with established procedures. |
| | 1.11 | Members of the work party are fully briefed about the permit conditions and respective responsibilities confirmed |
| | 1.12 | Signs, barriers and warning devices are positioned in accordance with requirements |
| 2 Perform routine maintenance on transmission pipeline facilities and equipment | 2.1 | WHS/OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards |
| | 2.2 | Appropriate materials, tools, equipment and measuring devices are selected and used correctly and safely. |
| | 2.3 | Hazardous activities such as lifting, climbing, working in confined spaces, excavations, trenches, or aloft, and use of power tools are performed safely according to procedures, codes and legislation |
| | 2.4 | Routine maintenance of transmission pipeline facilities and equipment is performed in accordance with procedures in an agreed timeframe and to quality standards with a minimum of waste according to requirements |
| | 2.5 | Hazard warnings and safety signs are complied |

ELEMENT

PERFORMANCE CRITERIA

- with and WHS/OHS risks are reported to the immediate authorised persons for directions according to established procedures
- 2.6 Unplanned events are safely resolved in accordance with established procedures.
- 2.7 Known solutions to a variety of problems are applied using required Knowledge and Skills
- 2.8 Ongoing checks of quality of the work are undertaken in accordance with established procedures.
- 3 Complete work and relevant documentation**
- 3.1 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 requirements and established procedures where applicable
- 3.3 Work site is rehabilitated, cleaned up and made safe in accordance with established procedures.
- 3.4 Tools, equipment and any surplus resources and materials are 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 with requirements
- 3.6 Work completion records, reports as installed, modified, drawings, documentation and information are finalised and processed and appropriate persons notified

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 performing routine maintenance on transmission pipeline facilities and equipment.

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 is provided below. It forms an integral part of this unit

KS01-G347A Transmission pipeline maintenance

Evidence shall show an understanding of the performing routine maintenance on transmission pipeline facilities and equipment in accordance with relevant legislation, standards, codes and established procedures to an extent indicated by the following aspects:

- T1. Relevant WHS/OHS, emergency and environmental requirements and procedures
- T2. Relevant Australian Standards, codes and regulations requirements
- T3. Types of pipeline facilities and equipment to be inspected and tested
- T4. Tools, equipment, instruments, PPE and emergency equipment required
- T5. Manufacturers specifications, manuals, part lists, calibration forms, checklists
- T6. On site risk assessment
- T7. Leakage surveys and pin pointing gas leaks
- T8. Isolation, depressurisation, tagging and lockout of pipeline facilities and equipment requirements and procedures, this includes valves, flanges, fittings, markers and signs
- T9. Routine inspection and testing of pipeline facilities and equipment requirements and procedures.
- T10. Maintenance activities requirements and procedures
- T11. Faults managed during routine maintenance
- T12. De-isolation all sources of energy, removal of tags and locks and return to normal operation requirements and procedures
- T13. Communication and recording/reporting documentation requirements and procedures

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 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 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.
 - Perform routine maintenance on transmission pipeline facilities and equipment in accordance with relevant legislation, code, regulations and procedures as described in 9.) Range Statement and including:

Range of tools/equipment/procedures/workplace
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Group 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 2885 • Relevant knowledge of AS 2865 • Interpret technical drawings and symbols. • Documentation (permits, schedules) • Perform effective Risk assessments • Communicate effectively with stakeholders • Response effectively to Emergencies • Comply with Environmental Codes of Practice
B.	All	<ul style="list-style-type: none"> • Approved isolation, venting, purging and re-pressurisation procedures • AS 2885 requirements • Correctly operate gas detectors • Communication effectively with stakeholders • Protect the environment
C.	At Least 2	Basic knowledge of: <ul style="list-style-type: none"> • City Gate operation. • Line Valve operation • Pressure control stations
D.	All	Basic understanding of: <ul style="list-style-type: none"> • Cathodic Protection. • Electrical safety. • Electrical bonding requirements

E.	All	<ul style="list-style-type: none"> • Restore all site isolations • Perform site inspections • Update Drawings/plans • Complete forms and Reports • Close work permits
F.	At least one occasion	Deal with an unplanned event by drawing on required knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

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.
- 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 performing routine maintenance on transmission pipeline facilities and equipment.

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 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

UEGNSG133A Comply with environmental policies and procedures in the utilities industry

UEGNSG134A Establish a utilities 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 perform routine maintenance on transmission pipeline facilities and equipment.

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:

- Equipment
- Tools, equipment and testing devices
- Types of faults
- Documentation
- Reports

Unit Sector(s)

Gas supply industry

Competency Field

Transmission.