



Australian Government

UEGNSG225A Perform routine maintenance on distribution pipeline facilities and equipment

Release 1

UEGNSG225A Perform routine maintenance on distribution pipeline facilities and equipment

Modification History

This unit replaces UEGNSG206B Perform routine maintenance on distribution pipeline facilities and equipment in UEG11.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers the routine maintenance of distribution pipeline facilities and equipment.

It encompasses using equipment, tools and testing devices; performing routine maintenance; identifying faults; and completing the appropriate documentation and reports.

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to gas distribution pipelines, 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:

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 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:

1. 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.

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

License to practice 3)

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:

UEGNSG141A	Apply Workplace Health and Safety regulations, codes and practices in the gas industry
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

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 routine maintenance on distribution pipeline facilities and equipment	1.1 Work schedule(s), including drawings, plans, requirements, established procedures and material lists are received, analysed and confirmed if necessary by site inspection 1.2 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites 1.3 WHS/OHS, environmental and sustainable energy policies and procedures related to the performing of routine maintenance of pipeline, facilities and equipment are identified, obtained, understood and confirmed for the purposes of the work performed and communicated

ELEMENT

PERFORMANCE CRITERIA

- 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, WHS/OHS risks are assessed and control measures for identified hazards are implemented, prioritised and monitored against the work schedule.
- 1.6 The facilities/equipment is 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 requirements and established procedures
- 1.7 Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and checked for operation and safety.
- 1.8 Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures such as licensed to operate equipment according to requirements
- 1.9 Liaison and communication with authorised persons, authorities, clients and land-owners is completed so work can be carried out where necessary
- 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 including traffic management plans

ELEMENT	PERFORMANCE CRITERIA
2 Perform routine maintenance on distribution 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 or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed
	2.4 Routine maintenance of distribution facilities and equipment 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 WHS/OHS risks are reported to the authorised persons for directions according to established procedures
	2.6 Unplanned events in the performing of routine maintenance of distribution pipeline, facilities and equipment is undertaken within the scope of established procedures
	2.7 Known solutions to a variety of problems are applied using acquired required Knowledge and Skills
	2.8 Ongoing checks of work quality are undertaken in accordance with given instructions and established procedures
3 Complete work and relevant documentation	3.1 Work undertaken is checked against works schedule for conformance with requirements and anomalies reported in accordance with established procedures
	3.2 Accidents and injuries are reported in accordance with requirements and established

ELEMENT

PERFORMANCE CRITERIA

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 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 essential 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 distribution 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-G225A Distribution pipeline maintenance

Evidence shall show an understanding of the performing routine maintenance on distribution 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
- 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

REQUIRED SKILLS AND KNOWLEDGE

Procedures

Evidence Guide

EVIDENCE GUIDE

8) 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

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 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 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 required knowledge and 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 distribution 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		
Group	The minimum number of items on which skill is to be demonstrated	Item List

A WHS/O HS	All	• Perform risk assessments • Interpret technical drawings and symbols • Ensure emergency response procedures in place • Communicate with authorities and stakeholders • Obtain work permits • Use and interpret Dial Before You Dig reports
B Piping Access Procedures	At least 3	• Excavation • Trenching • Shoring • Stitch bore • Horizontal drilling • Directional drilling
C Piping Materials	At least 2	• Nylon (polyamide) pipeline laying, joining and stop off techniques • UPVC pipeline laying , joining stop off techniques • PE pipeline laying, joining and stop off techniques • Steel pipeline laying, joining and stop off techniques
D Procedures	All	• Isolate, vent and purge gas pipeline systems • Operation of gas detector • Operate service locator • Where relevant, calculate nitrogen volume needed • Practical application of AS3723 Installation and maintenance of plastic pipe systems
E Isolation Procedures	At least 2	• High pressure stop off • 312 • Bagtube • Squash off jacks • Squash off pliers

F Unplanned Events	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

8.3)

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
- 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 distribution 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.

UEGNSG132 Carry out basic work activities in a gas industry
A work environment

UEGNSG141 Apply Workplace Health and Safety regulations
A codes and practices in the gas industry

UEGNSG133 Comply with environmental policies and
A procedures in the utilities industry

UEGNSG134 Establish a utilities work site
A

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 performing routine maintenance on distribution pipeline facilities and equipment which may include valves, actuators and flanges; heaters and heat exchangers; metering equipment; process control equipment; gas analysis equipment; piping systems; sumps and drains; pressure vessels/filtration equipment; pumping systems and equipment; compression systems 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

Competency Field **11)**

Distribution.