



**Australian Government**

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

# **UEGNSG206A Perform routine maintenance on distribution pipeline facilities and equipment**

Release: 1

## **UEGNSG206A Perform routine maintenance on distribution pipeline facilities and equipment**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit Descriptor**

**1)**

This Competency Standard Unit covers the performance of minor maintenance of pipelines, facilities and associated equipment. This competency standard includes using equipment, tools and testing devices; identifying the types of faults; completing the appropriate documentation and reports in accordance with requirements.

### **Application of the Unit**

#### **Application of the Unit**

**3)**

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**

**3.1)**

The skills and knowledge described in this unit are not 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.

**License to practice**

3.1)

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)**

2)

**Competencies**

2.1)

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

Nil

**Employability Skills Information**

Refer to the Evidence Guide

**Elements and Performance Criteria Pre-Content**

5) 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 minor 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

## ELEMENT

## PERFORMANCE CRITERIA

- persons and identified for all work sites
- 1.3 OHS, environmental and sustainable energy policies and procedures related to the performing of routine maintenance of pipeline, facilities and equipment are obtained and confirmed for the purposes of the work performed and communicated
  - 1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures
  - 1.5 Risk 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 confirmed in working order
  - 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

## ELEMENT

## PERFORMANCE CRITERIA

		applicable in accordance with established procedures
	1.12	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2	Perform routine maintenance on distribution pipeline facilities and equipment	
	2.1	OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2	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
	2.3	Essential Knowledge and Associated Skills are applied to the performing of routine maintenance of pipeline, facilities and equipment to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	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 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 Essential Knowledge and Associated Skills
	2.8	Ongoing checks of work quality are undertaken in accordance with given instructions and established procedures

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
3 Routine maintenance is completed and results recorded and notified	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 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**

6) 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. The extent of the essential knowledge and associated skills (EKAS) required is given in Volume 2 - Part 2.2 EKAS. It forms an integral part of this unit.

- G 3.2.22 Plan and prepare for low, medium and secondary pipeline inspection and testing procedures (up to and including 1050kPa)
- G 3.2.23 Secure facilities/equipment prior to inspection

## REQUIRED SKILLS AND KNOWLEDGE

and testing of low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa)

- G 3.2.24 Inspect and test low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa) in accordance with procedures, OHS and environmental requirements
- G 3.2.25 Correctly diagnose and assess faults of low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa)
- G 3.2.26 Plan and prepare for high pressure pipeline inspection and testing procedures
- G 3.2.27 Secure facilities/equipment prior to inspection and testing of high pressure pipelines, facilities and equipment
- G 3.2.28 Inspect and test high pressure pipelines, facilities and equipment in accordance with procedures, OHS and environmental requirements
- G 3.2.29 Correctly diagnose and assess faults of high pressure pipelines, facilities and equipment
- G 3.2.30 Plan and prepare for routine maintenance on low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa)
- G 3.2.31 Secure work area prior to maintenance of low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa)
- G 3.2.32 Perform routine maintenance on low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa)
- G 3.2.33 Notify completion of work on low, medium and secondary pipelines, facilities and equipment (up to and including 1050kPa)
- G 3.2.34 Plan and prepare for routine maintenance of high pressure pipelines, facilities and

## **REQUIRED SKILLS AND KNOWLEDGE**

equipment

- G 3.2.35 Secure work area and equipment prior to repair
- G 3.2.36 Perform routine maintenance on high pressure pipelines, facilities and equipment
- G 3.2.37 Notify completion of work on high pressure pipelines, facilities and equipment



## 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

##### 8.2)

Before the critical aspects of evidence are considered all

## EVIDENCE GUIDE

### to demonstrate competency in this unit

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 UEG06'. 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 skills enabling employment
  - Conduct work observing the relevant anti discrimination legislation, regulations, polices and workplace procedures
  - Demonstrate performance across a representative range of contexts from the prescribed items below.

<b>Range of tools/equipment/materials/procedures/workplaces/other variables</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	Interpret technical drawings and symbols Ensure emergency response procedures in place Communicate with other

## EVIDENCE GUIDE

		<p>authorities and stakeholders                      Communicate                      schedules/coordinate to persons                      Carry out job safety analysis                      Obtain work permit                      Use and interpret Dial Before                      You Dig report or its equivalent</p>
B	At least 3	<p>Excavation                      Trenching                      Shoring                      Stitch bore                      Horizontal drilling                      Directional drilling</p>
C	At least 3	<p>Nylon (polymide) pipeline                      laying techniques                      Nylon gluing                      Nylon stop off                      Horizontal drilling                      Directional drilling</p>
D	At least 5	<p>PE pipeline laying techniques                      Large diameter PE                      PE electro fusion                      PE butt fusion                      Saddle fusion                      Socket fusion                      PE stop off                      Compression couplings or                      flanges                      Connection of PE to nylon                      Practical application of AS3723                      Installation and Maintenance of                      plastic pipe systems</p>
E	At least 4	<p>UPVC pipeline laying                      techniques                      UPVC solvent cemented joints                      UPVC moulded joints                      UPVC stop off                      UPVC couplings or flanges                      Connection of UPVC to steel                      Practical application of AS3723                      Installation and maintenance of                      plastic pipe systems</p>

## EVIDENCE GUIDE

F	At least 2	Steel pipeline coating repair Steel pipeline coating testing (Jeeper) Steel, field joint coating
G	All	Isolate, vent and purge gas pipeline systems Operation of gas detector Operate service locator Where relevant, calculate nitrogen volume needed
H	At least 2	High pressure stop off 312 Bagtube Squash off jacks Squash off pliers
I	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 key

## EVIDENCE GUIDE

competencies.

### 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.

UEGNSG102A Carry out work activities in a utilities industry work environment

UEGNSG103A Comply with workplace OHS procedures and practices

UEGNSG104A Comply with environmental policies and procedures

UEGNSG105A Establish the work site

BSBCM302A Organise personal work priorities and professional development

BSBFLM312A Contribute to team effectiveness

BSBFLM303A Contribute to effective workplace relationships

BSBCM311A Maintain workplace safety

### Key Competencies

8.6) Evidence that particular key competencies have been achieved within this Competency Standard Unit is in the context of the following Performance Criteria of evidence. See Volume 2, Part 4 for an explanation of Key Competencies and levels of this Training Package.

<b>Key Competencies</b>	<b>Example of Application</b>	<b>Performance Level</b>
How are ideas and information communicated within this competency?	Refer to the following Performance Criteria for examples of application:  1.8; 3.2	3
How can information be collected, analysed and organised?	Refer to the following Performance Criteria for examples of application:  1.1; 1.5	2
How are activities planned and organised?	Refer to the following Performance Criteria for examples of application:  1.10; 2.6	2
How is team work used within this competency?	Refer to the following Performance Criteria for examples of application:  1.9; 1.11	1
How are mathematical ideas and techniques used?	Refer to the following Performance Criteria for examples of application:	N/A
How are problem solving skills applied?	Refer to the following Performance Criteria for examples of application:  2.6; 2.7	2
How is use of technology applied?	Refer to the following Performance Criteria for examples of application:  3.4	2

Key Competencies	Example of Application	Performance Level
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**Skills Enabling Employment**

8.7) Evidence that competency in this unit incorporates skills enabling employment is in the context of the following performance. See Volume 2, Part 5 for definitions and an explanation of skills enabling employment.

Skills for Employment		Example of Application
1	Developing and using skills within a real workplace	Refer to the following Performance Criteria for examples of application:  All
2	Learning to learn in the workplace	Refer to the following Performance Criteria for examples of application:  2.6; 2.7
3	Reflecting on the outcome and process of work task	Refer to the following Performance Criteria for examples of application:  3.4; 3.6
4	Interacting and understanding of the context of the work task	Refer to the following Performance Criteria for examples of application:  1.4; 1.9; 3.6
5	Planning and organising the meaningful work task	Refer to the following Performance Criteria for examples of application:  1.4; 1.5; 1.7; 1.9
6	Performing the work task in non-routine or contingent situations	Refer to the following Performance Criteria for examples of application:  2.6

## Range Statement

### RANGE STATEMENT

7) 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/may be demonstrated in relation to performing routine maintenance on distribution 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 (3)

Tools, equipment and testing devices (3)

Types of faults (3)

Documentation (3)

Reports (3)

## Unit Sector(s)

Not Applicable

## Literacy and numeracy skills

### Literacy and numeracy skills 2.2)

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

## Competency Field

### Competency Field 4)

Distribution.



