



Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG110B Supervise technical operations for gas distribution or transmission

Release: 1

UEGNSG110B Supervise technical operations for gas distribution or transmission

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Unit covers the skills and knowledge required to supervise technical operations for gas distribution and transmission. The competency standard refers to Resources; Operational; Monitoring; Relevant Personnel; Types of Faults; Reports.

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 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)**

Commonwealth, State/Territory or Local Government legislation and regulations may exist that limit the age at which a person 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 4 Writing 4 Numeracy 4

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 Plan and prepare to supervise operations	<p>1.1 Project activities are planned to prevent damage and to ensure minimal disruption to gas supply</p> <p>1.2 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures</p> <p>1.3 Risk control measures are identified, prioritised and evaluated against the work schedule</p> <p>1.4 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites</p> <p>1.5 OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed</p> <p>1.6 Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures</p> <p>1.7 Resources including persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order</p> <p>1.8 Clients are provided with possible solutions and options within the scope, acceptable cost and requirements</p>

ELEMENT	PERFORMANCE CRITERIA
	1.9 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work
	1.10 Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures
	1.11 Expenditure is forecast and managed to keep within operational budget constraints
2 Supervise during projects	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards
	2.2 First Aid and other related work procedures are performed according to requirements and established procedures
	2.3 Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements
	2.4 Hazard warnings and safety signs are recognised and hazards assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures
	2.5 Fault finding and troubleshooting techniques are applied to operational systems and equipment to identify any repairs or maintenance that is required according to requirements and established procedures
	2.6 Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.7 Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills

ELEMENT	PERFORMANCE CRITERIA
3 Finalise completion details	2.8 Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client and to a community and industry standards
	2.9 Relevant persons are informed of project status/requirements according to company standard operating procedures
	3.1 Work undertaken is checked against works schedule for conformance with requirements and anomalies which are reported and solutions identified in accordance with established procedures
	3.2 Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3 Work site is rehabilitated/cleaned up and confirmed safe and in accordance with 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 in accordance with requirements
	3.6 Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed, processed and the 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 supervising technical operations for gas distribution/transmission.

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

KS01- G110B **Technical operations for gas distribution/transmission**

G 5.1.4 Management techniques for Gas Industry supervision
Evidence shall show an understanding and application of management techniques required of Gas Industry operators in a supervisory capacity, indicated by the following:

- industrial awards and employee entitlements
 - industrial conflict
 - industrial relations issues
 - understanding industrial awards and employee entitlements
 - individual and collective bargaining and agreements
- characteristics of ethnic and cultural groups
- Applicable environmental requirements
- relevant organisational standard operating procedures, site specific safety legislation and requirements
- correct waste management procedures
- application of OHS management in relation to other organisational management systems.
- Related organisational policies and procedures such as business planning, training, purchasing.

G 5.1.5 Demonstrate an understanding of the operation of Gas Industry equipment, tools and materials
Evidence shall show an understanding of how Gas Industry tools, equipment and materials operate, indicated by the following:

- relevant organisational maintenance procedures
- operating principles of gas industry infrastructure and equipment including pipelines and facilities

- methodology for location of third-party services
- emergency response systems
- correct pressure adjustment techniques and procedures
- correct procedures for identifying, diagnosing, assessing, analysing, locating, repairing of faults in gas infrastructure and the generation of applicable fault reports.
- use and operation of pipeline PIG's and 'pigging' techniques
- cathodic protection system, installation, adjustment, replacement, checking and maintenance of applicable cathodic levels
- pipeline construction techniques and jointing procedures
- pipeline inspecting and testing techniques
- commissioning and decommissioning procedures of gas infrastructure including pipelines and equipment as applicable
- applicable coating procedures to protect against corrosion.

G 5.1.7 Manage Gas Industry maintenance

Evidence shall show an understanding and application of relevant gas industry infrastructure maintenance and practices at a supervisory level indicated by the following:

- planning of scheduled and non-scheduled maintenance of applicable gas infrastructure
- coordination of maintenance activities
- Implement safety and environmental controls during maintenance activities
- Comply with relevant regulations such as building Codes and Australian Standards during the planning and implementation of maintenance activities
- understanding of applicable project management techniques in maintenance planning and implementation
- manage gas industry projects
- understanding of applicable Human Resource requirements in maintenance activities including appropriate training and qualifications of maintenance personnel.
- Understanding and implementation of relevant aspects of organisational Quality Assurance requirements when planning and implementing maintenance activities

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 this 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 and 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 practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included 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 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 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:

Range of tools/equipment/procedures/workplace		
Group No	The minimum number of items on which skill is to be demonstrated	Item List

A	At least 4	Resources: Appropriate relevant personnel Materials Tools and equipment Personal protective equipment and clothing Company standard operating procedures Equipment manuals Training resources
B	At least 3	Project activities: Maintenance, repairs and modifications Construction and upgrade Rectification of gas system faults Installation and commissioning of New plant, piping and equipment System security Scheduling work
C	All	Legislative requirements: OHS legislation Relevant Government Acts, regulations and codes of practice Australian standards Environmental legislative requirements
D	At least 3	Relevant authorities: Local and shire councils Local government authorities Road transport authorities Rail departments Landowners both current and traditional indigenous
E	At least 8	Gas system faults: Gas leaks Electrical problems Mechanical failure Out-of-current inspection

		status Gauge failure, hose rupture/leaks Instruments out of calibration Non-flow of gas Cathodic protection system failure Corrosion Compressor breakdown Filtration problems Gas measurement equipment inaccuracy/failure
F	At least 8	Relevant documentation: Contracts, specifications Drawings, plans Manufacturer's specifications Work permits Company standard operation and safety procedures Company management plans and policies Hot work permits Company forms and files OHS laws and codes of practice Relevant Government Acts, regulations and codes of practice Environmental legislative requirements Pipeline licenses Quality assurance Commercial agreements
G	At least 4	Records/reports: Relevant documentation Routine inspections (daily readings, monthly checks) Scheduled maintenance activities Mandatory or statutory

		inspections Hazard and incident reports
H	All	Management techniques for Gas Industry supervision Understanding the operation of Gas Industry equipment, tools and materials
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 9.3)

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 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 supervising technical operations for gas distribution/transmission.

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 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 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.

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 Unit shall be demonstrated in relation to supervising technical operations for gas distribution/transmission.

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:

Resources

Operational

Monitoring

Relevant personnel

Types of faults

Reports (5)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.