Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG109B Control field pipeline operations

Release: 1

UEGNSG109B Control field pipeline operations

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Unit covers the skills and knowledge required to control field pipeline operations on a gas pipeline. This competency standard refers to Resources; Operational; Monitoring; Relevant Persons; 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. Commonwealth, State/Territory or Local Government

License to practice **3)**

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 control of operation	1.1	Works schedule(s), including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination
	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
	1.3	Risk control measures are identified, prioritised and evaluated against the work schedule
	1.4	Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.5	OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed
	1.6	Relevant work permits are secured to coordinate the performance of work according to requirements and established procedures
	1.7	Resources to meet pipeline operations are determined in accordance with standard operating procedures
	1.8	Clients are provided with possible solutions and options within the scope, acceptable cost and

ELEMENT	PERFORMANCE CRITERIA	
		requirements
	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	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
2 Control operations	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	Lifting, climbing, working in confined spaces and aloft, use of power tools, techniques and practices are safely exercised according to requirements
	2.4	Operating conditions, pressures and temperatures are monitored and observed to determined correct operating parameters of the pipeline are being maintained
	2.5	Alarms and codes are correctly interpreted and acknowledged to ensure the correct response strategy is selected and applied to the situation
	2.6	Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and established procedures
	2.7	Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a

ELEMENT	PERFORMANCE CRITERIA	
		minimum of waste according to requirements
	2.8	Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills
	2.9	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 standard
3 Shut down pipeline system	3.1	Emergency shutdown procedures are applied in the event of serious equipment failure or operational parameters being set and work undertaken 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	Shutdown is completed in accordance with standard operating procedures
	3.5	Shift hand over procedures are performed in accordance with standard operating procedures and pre-shutdown checks are completed and documented in accordance with standard operating procedures

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 the control of field pipeline operations.

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

KS01-G109 B Field pipeline operations

G 4.1.1 Operating and supervising in the Gas Industry

Evidence shall show an understanding of supervising and operating in a Gas Industry environment, indicated by the following:

- understanding and application of enterprise applicable standard operating procedures
- understanding and application of relevant enterprise permit to work systems
- understanding and application of alarm and communication systems
- understanding and application of relevant OHS and environmental legislative requirements including applicable emergency procedures
- demonstrate an understanding and application of planning, prioritisation and working autonomously in the Gas Industry.

G 4.1.2 Understand the effective operation of Gas Industry plant, equipment and materials

Evidence shall show an understanding of the effective operation of Gas Industry plant, equipment and materials, indicated by the following:

- understand and apply of relevant industry engineering terminology and units
- understanding of pipeline system operating parameters
- demonstrate operational knowledge of systems such as pumps, compressors, regulation, shutdown equipment, measurement systems by on-site or remote operation as applicable.

- understanding of relevant inspection and testing procedures for applicable plant and equipment
- understanding the process of commissioning and decommissioning of relevant equipment such as pipework, vessels and compressors, including on-site and remote operation as applicable.
- Understanding the characteristics of gas flows including compressed and non-compressed operations
- Understanding the characteristics, operation, capabilities and limitations of applicable tools and equipment including prime movers, compression and control systems, pipeline facilities and associated equipment
- understanding the operation of gas analysis and measuring equipment

G 4.1.3 Communicating effectively in the Gas Industry at a supervisory level

Evidence shall show an understanding of communication techniques required in supervisory roles in the Gas Industry, indicated by the following:

- communicate effectively with a variety of Gas Industry stakeholders, using strategies for dealing with difficult situations. The communication includes oral, written or electronic communications, with various stakeholders including:
  - workplace colleagues
  - workplace managers
  - relevant customers and suppliers
  - regulatory bodies
  - property/land owners (including traditional land owners) and tenants
  - emergency response organisations

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, polices 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	All	Apply emergency response systems Ensure knowledge of permit to work system Use emergency equipment including fire fighting equipment correctly Monitor of product and safe fill levels Use correct product transfer procedures Use correct storage processing conditions of product Relay accurate instructions
B	At least 7	Resources: Process control equipment Station power supply Heaters and heat exchanges Station instrumentation Drawings and schematics Metering equipment and gas analysis equipment Valves, actuators and flanges Compressors and prime movers Sumps and drains PIGs
C	At least 4	Monitoring pipeline: Use of fire and gas extinguishing and deluge systems Emergency systems Alarm and communication systems SCADA

		Prime wovers and compression systems Shutdown systems
D	At least 7	Faults: Gas leaks Electrical problems Compressor or pump failure Out-of-current inspection status Gauge failure or hose rupture leaks Instruments out of calibration Non-flow of gas
E	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 controlling field pipeline operations.

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 controlling field pipeline operations.

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 persons

Types of faults

Reports

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.