



Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG111B Produce maintenance strategies and plans for a gas facility

Release: 1

UEGNSG111B Produce maintenance strategies and plans for a gas facility

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Unit covers the development of producing maintenance strategies and plans for a gas production facility. The competency standard involves strategies; budgeting; reference information; communication; producing documentation; preparation and implementation strategies.

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,

License to practice**3)**

telecommunications, anti discrimination and training. 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 Research and plan to implement strategies	1.1 Existing strategies are reviewed for maintenance requirements and directions against work schedule
	1.2 Enterprise and site plans are reviewed for impact on maintenance work
	1.3 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
	1.4 Risk control measures are identified, prioritised and evaluated against the work schedule
	1.5 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites
	1.6 Cost estimating and economic evaluation is performed and legal implications are investigated to ensure work can be undertaken in accordance with requirements
	1.7 Resources including persons and equipment required are identified, scheduled, coordinated and confirmed
	1.8 Clients are provided with possible solutions and options within the scope, acceptable cost and requirements
	1.9 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to

ELEMENT**PERFORMANCE CRITERIA**

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 established 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 | Establish strategies for implementing a maintenance plan | |
| | 2.1 | OHS, environmental and sustainable energy policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards |
| | 2.2 | Resources required to implement strategies are identified and detailed and the work is performed in accordance with a work schedule and to requirements |
| | 2.3 | Timeframes and potential variances for maintenance scheduling are defined and potential risks and control measures are monitored and preventative action taken where necessary |
| | 2.4 | Planned objectives are documented in accordance with enterprise requirements |
| | 2.5 | Essential Knowledge and Associated Skills is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements |
| | 2.6 | Solutions to non-routine problems are identified and actioned, according to requirements, using acquired Essential Knowledge and Associated Skills |

ELEMENT**PERFORMANCE CRITERIA**

	2.7	Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality like outcome is achieved for the client and to a community and industry standards
3 Implement maintenance strategy	3.1	Strategies and plans are implemented in order to facilitate required outcomes as per enterprise requirements
	3.2	Strategies are implemented and variances are identified and corrective action is taken in accordance with risk management planning process
	3.3	Final reporting is performed as per enterprise requirements

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 maintenance strategies and plans for a gas facility.

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

**KS01-G111 Maintenance plans
B****G 5.1.1 Gas Industry concepts for supervising operations**

Evidence shall show an understanding of the requirements to undertake the supervision of Gas Industry operations, indicated by the following:

- Implementation of risk management and Occupational Health and Safety (OHS) practices and principles including, but not limited to:
 - risk assessment, risk control and risk control

measures

- hierarchy of control
- personal protective equipment — strengths and weaknesses
- identifying hazards and their consequences
- identifying hazards, assessing associated risks and implementing appropriate control measures
- developing hazard checklists
- reporting hazards including hazardous events
- planning theory and study of HAZOPS and HAZANS
- knowledge of applicable legislative requirements and Australian/New Zealand and ISO standards and codes of practice for the Gas Industry
- Implementation of relevant organisational policies and procedures
- identification and implementation of control measures
- establishing emergency management techniques
- principles and guidelines including critical incident analysis.

G 5.1.2 Apply problem solving, decision making and conflict resolution techniques

Evidence shall show an understanding and application of problem solving, decision making and conflict resolution techniques in a Gas Industry environment, indicated by the following:

- problem solving and decision making techniques
 - the decision making environment
 - group decision making
 - guidelines for making decisions
 - decision making aids and support systems
 - negotiation with internal and external stakeholders
 - the nature of negotiation
 - strategy and tactics of bargaining
 - pre-negotiation essentials
 - communication in negotiation
- resolve conflict with internal or external stakeholders
 - dealing with negotiation breakdowns
 - social context of negotiation
 - power in negotiation
 - ethics in negotiation.

G 5.1.3 Plan for, respond to and manage emergencies

Evidence shall show an understanding and application of emergency management techniques in a Gas Industry environment, indicated by the following:

- emergency management concepts and principles:
 - auditing and planning
 - systems analysis
 - policies and procedures for non-employees and contractors
 - types of emergencies
 - dealing with an emergency
 - elements of an emergency plan
 - employee assistance programs.
- Develop an emergency management plan which includes:
 - First Aid and welfare
 - recovery and post recovery plans
 - legislative requirements
 - interaction with authorities/emergency services
 - communication with key stakeholders
 - initial response/assessment and make safe

G 5.1.4 Management techniques of utilities 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 5.1.6 Technical knowledge for Gas Industry managers

Evidence shall show an understanding and application of the technical knowledge required of Gas Industry managers, indicated by the following:

- development of organisational operational strategies as required
- understanding maintenance philosophies
- engineering principles
- risk management in a Gas Industry environment
- principles of planning including project management planning.

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	The minimum number of items on which skill	Item List

No	is to be demonstrated	
A	All	Knowledge and interpretation of OHS legislation Enterprise safety procedures Enterprise site safety and emergency procedures
B	All	Strategy development Maintenance philosophy Engineering principles Risk management Principles of planning Communication principles Problem solving skills
C	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 producing maintenance strategies and plans for a gas facility

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 producing maintenance strategies and plans for a gas facility.

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:

Strategies

Budget

Reference information

Communication

Documentation (5)

Preparation and implementation strategies

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Cross discipline.