



Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG317A Monitor and report on cathodic protection systems

Release: 1

UEGNSG317A Monitor and report on cathodic protection systems

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

1)

This competency standard does not include specialist cathodic protection activities, but includes the performance of testing, basic fault recognition, and is limited to minor maintenance, reporting of findings including faults on cathodic protection systems. The work may be performed autonomously in remote locations for long periods of time. The competency standard is applied against the requirements found under the latest version of AS 2885 and AS2832 Australian and New Zealand Standard. Includes Tools and equipment, Maps and Drawings, Established Procedures, PPE and First Aid Equipment, Traffic Control.

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.

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 Industry safety and compliance, industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local

License to practice**3.1)**

Government legislation and regulations may exist that limits the age of persons 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 Plan to monitor and report on the cathodic protection system	1.1 Work schedules, specific requirements, drawings, plans, requirements, established procedures and material and equipment are examined. The extent of preparation for the work is assessed 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 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 1.8 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work 1.9 Persons participating in the work are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with establish procedures

ELEMENT	PERFORMANCE CRITERIA
2 Monitor and report on the cathodic protection system	2.1 OHS and Environmental 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 Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements 2.5 Hazard warnings and safety signs are recognised and hazards are assessed and OHS risks are reported to the immediate authorised persons for directions according to established procedures 2.6 Fault finding and troubleshooting techniques are applied to identify any repairs or maintenance that are required 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 minimum of waste according to requirements 2.8 Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements 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 to a community and industry standard

ELEMENT	PERFORMANCE CRITERIA
3 Review, record and report on monitoring and reporting on the cathodic protection system	3.1 Work undertaken is checked against works schedule for conformance with requirements, anomalies 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 Work 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

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 monitoring and reporting on cathodic protection systems. 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 2.1.8 Control traffic at the work site
- G 3.1.2 Work independently in a Gas Industry environment
- G 3.4.1 Understanding corrosion processes

REQUIRED SKILLS AND KNOWLEDGE

- G 3.4.5 Interpreting topographical maps and information
- G 4.1.2 Understanding the effective operation of Gas Industry plant and equipment and materials
- G 4.1.3 Communicating in the Gas Industry at a supervisory level
- G 4.1.4 Gas Industry products and services
- G 4.1.5 Interpreting Gas Industry drawings
- G 4.1.6 OHS and First Aid for Gas Industry supervisors
- G 4.1.7 Complete Gas Industry reports and documentation
- G 4.1.8 Use a personal computer
- G 4.1.9 Transmission pipelines
- G 4.1.13 Electrical fundamentals for the Gas Industry
- G 4.1.14 Environmental and cultural issues
- G 4.1.15 Driving Gas Industry vehicles
- G 5.1.2 Problem solving, decision making and conflict resolution

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 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 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, policies and workplace procedures
 - Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/materials/procedures/workplaces/other variables		
Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	All	Working knowledge of relevant sections AS2885 and AS2832 Demonstrate the practical use

		of communications equipment Demonstrate use and maintenance of CP equipment Demonstrate use and maintenance of measuring equipment Complete written and verbal reports Demonstrated knowledge of cathodic protection principles and equipment Identify and recognise cathodic protection faults Diagnose and perform minor maintenance of faults on cathodic protection equipment
B	All	Interpret technical drawings and symbols Operate gas detector Operate pipe locator Work using relevant OHS and environmental, cultural and heritage regulations, codes of practice, policies and procedures Practical knowledge of the properties of product being transported Work safely with hazardous materials and equipment Apply safe manual handling techniques Communicate effectively in the workplace Negotiation skills Apply basic planning skills First Aid certificate level 1
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
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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 monitoring and reporting on cathodic protection systems.

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 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.

UEGNSG302 Maintain pipeline easements

A

UEGNSG303 Ground transmission pipeline surveillance

A

UEGNSG308 Identify, evaluate and control threats to
transmission pipelines

A

UEGNSG309 First on-site emergency response

A

UEGNSG310 Supervise and monitor contract staff

A

UEGNSG311 Site control of third party works in the vicinity
of a transmission pipeline

A

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.

Key Competencies	Example of Application	Performance Level
How are ideas and information communicated within this competency?	Refer to the following Performance Criteria for examples of application: 1.4; 1.8; 1.9; 1.10	3
How can information be collected, analysed and organised?	Refer to the following Performance Criteria for examples of application: 1.2; 1.3	2
How are activities planned and organised?	Refer to the following Performance Criteria for examples of application: 1.2; 1.7; 2.5	2

How is team work used within this competency?	Refer to the following Performance Criteria for examples of application: 1.2; 1.4; 1.10	2
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: 2.10	2
How is use of technology applied?	Refer to the following Performance Criteria for examples of application: 3.6	2

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: 1.3; 2.10
3	Reflecting on the outcome and process of work task	Refer to the following Performance Criteria for examples of application: 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; 2.10
5	Planning and organising the meaningful work task	Refer to the following Performance Criteria for examples of application: 1.3
6	Performing the work task in non-routine or contingent situations	Refer to the following Performance Criteria for examples of application: 2.10

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 monitoring and reporting on cathodic protection systems.

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:

Tools and equipment (4)

Maps and drawings

Established procedures and requirements

PPE and First Aid equipment

Traffic control

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 4 Writing 4 Numeracy 4

Competency Field

Competency Field 4)

Transmission.