



**Australian Government**

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

# **UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area**

Release: 1

## UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

### Modification History

Not Applicable

### Unit Descriptor

#### Unit Descriptor

1)

#### 1.1) Descriptor

This unit covers the explosion-protection aspects of plant and machinery operation and maintenance. It requires the ability to visually identify any damage or deterioration of explosion-protected equipment, monitor changes in the explosion hazard and to implement procedures established to limit the risk of an explosion.

This unit is directly equivalent to the Unit 2.2 *Report on the integrity of explosion-protected equipment in hazardous areas* in the Australian/New Zealand Standard AS/NZS 4761.1 *Competencies for working with electrical equipment for hazardous areas (EEHA) Part 1: Competency Standards*. Equivalence includes endorsement in the explosion-protection techniques listed in the Range statement of this unit.

### Application of the Unit

#### Application of the Unit 4)

This unit augments other formally-acquired competencies in a relevant industry and shall be used only in conjunction such competencies. It applies to management, plant operation, maintenance and engineering job functions at AQF 2 or higher.

Note:

Examples of relevant industries include aviations, electrical installation and maintenance, fuel storage and dispensing industrial process, instrumentation and control, marine, material handling and storage, mining, and petrochemical

## Licensing/Regulatory Information

### 1.2) License to practice

The skills and knowledge described in this unit require a license to practice in the workplace subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

## Pre-Requisites

Prerequisite Unit(s) 2)

### 2.1) Competencies

Granting competency in this unit shall be made only after competency required by a given industry or enterprise for plant or machinery operation or installations, maintenance or service functions at least at AQF 2 or equivalent.

Examples are, (but not limited to).

UEENEEG005B Verify compliance and functionality of general electrical installations

UEENEEI012B Verify compliance and functionality of process control installations

MEM7.1B Perform operational maintenance of machines/equipment

PMAOPS201B Operate fluid flow equipment

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

## Employability Skills Information

- Employability Skills**      **3)**  
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 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

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
1 Prepare to work in hazardous area.	1.1 Nature of the explosion hazard in the area is known and the status of the explosion hazard is ascertained through established procedures.
	1.2 Operation and condition of plant and machinery, with regards to explosion-protection, is ascertained through established procedures.
	1.3 Established procedures for use of the plant and machinery, with regards to explosion-protection techniques used in the area, are followed.
2 Observe condition of explosion-protection system area.	2.1 OHS policies and procedures, with regards to explosion-protection, are followed.
	2.2 Performance of plant and machinery is monitored to identify faults that may affect the integrity of the explosion-protected equipment and wiring system.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	2.3 Observations of explosion-protected equipment and wiring are made during normal operations and visual non-conformances that may affect the integrity of the explosion-protection technique are identified.
	2.4 Explosion hazard monitoring equipment is observed and a potentially dangerous state of the hazard is identified, e.g. by using gas detectors.
3 Take actions to limit risk of an explosion.	3.1 Variations outside normal operating conditions are reported and documented in accordance with established procedures
	3.2 Non-conforming tools, equipment and testing devices are reported and documented in accordance with established procedures.
	3.3 Established procedures are followed in the event of a potential or immediate hazardous condition arising from any non-conformance identified in equipment/wiring or changes in the explosion hazard to a potentially dangerous state.

## **Required Skills and Knowledge**

### **REQUIRED SKILLS AND KNOWLEDGE**

7) 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 and reporting on the integrity of explosion protected equipment in hazardous areas. All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

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.

- 2.18.6 Hazardous area safe working practices
- 2.22.1 Hazardous areas and explosion-protection principles
  - 2.22.2.1 Explosion protected equipment Principles

## **REQUIRED SKILLS AND KNOWLEDGE**

### 2.22.23 Explosion-protection visual checks

## Evidence Guide

### EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must 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-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.

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. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence decisions about how/how much 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 for Assessors in the Assessment Guidelines of this Training Package.

## EVIDENCE GUIDE

### **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 must be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance 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 statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Report on the integrity of explosion-protected equipment in hazardous areas as described in 8) and including:
    - A Following work permits and clearance procedures.
    - B Monitoring hazards and following evacuation procedures.
    - C Correctly operation of plant and machinery.
    - D Following plant and electrical isolation procedures.



## EVIDENCE GUIDE

- E Identifying visual damage or deterioration of explosion-protected equipment.
- F Reporting visual defects.
- G Applying relevant contingency management skills.

### 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.

These should also be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to reporting on the integrity of explosion protected equipment in hazardous areas.

### 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 assessment in a structured environment primarily intended for learning/assessment which incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

### Concurrent assessment and relationship with other units

#### 9.5)

For optimisation of training and assessment effort, competency development in this unit may be arranged in combination with other competencies required by a given industry or enterprise for plant or machinery operation or in relation to installation, maintenance or service functions.

## Range Statement

### RANGE STATEMENT

8) This relates to the 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 any classified hazardous area.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

## Unit Sector(s)

Not Applicable

## Competency Field

### 2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in 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
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### 2.2) Literacy and numeracy skills

Competency Field 5)

Hazards