Australian Government

UEENEEM042A Conduct visual inspection of hazardous areas installations

Release 3

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UEENEEM042A Conduct visual inspection of hazardous areas installations

Modification History

Unit Descriptor

Unit Descriptor **1)**

1.1) Descriptor

This unit covers the explosion-protection aspects for conducting visual inspections of explosion-protected equipment and installations. It requires the ability to work safely in a hazardous area, and to identify conditions that affect the integrity of explosion-protection and document inspection findings.

This unit is directly equivalent to the Unit *2.11 Conduct visual inspection of hazardous areas installations* 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 hazardous area safety inspection related to plant or machinery operation or installations, maintenance or service 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 where plant and equipment operate at voltage above 50 V a.c. or 120 V d.c. Other conditions related to communications, electrical work, fire protection, gas work, high voltage work, refrigeration/air conditioning and security may apply in some jurisdictions subject to regulations. Practice in the 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 after or concurrently with confirming competency in the following units.

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

AND

Competencies 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. Example 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
PMAOPS20	Operate fluid flow equipment

Prerequisite Unit(s) **2)**

1B

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

ELEMENT	PERFORMANCE CRITERIA	
1 Prepare for inspection.	1.1	Type and intended location of each item of equipment and circuits subject to inspection are determined from documentation.
	1.2	OHS policies and procedures for preparing to work in a hazardous area are followed.
2 Conduct inspection.	2.1	OHS policies and procedure for working in a hazardous area are followed.
	2.2	Condition of equipment is visually inspected for any signs of non-conformance. Note: Examples of non-conformance include -

ELEMENT	PERFORMANCE CRITERIA	
		(a) excessive corrosion; (b) missing cover and mounting bolts; (c) enclosure or cable damage; (d) non-secured cables; (e) exposed armouring/cable cores at glanding point; or (f) Missing or illegible labels
3 Report inspection results.	3.1	Any non-conformances identified by the visual inspection are documented in accordance with established procedures
	3.2	Where applicable, documentation in relation to all aspects of the inspection is forwarded to the appropriate personnel for inclusion in the verification dossier in accordance with requirements

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 testing installations in hazardous areas.

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

KS01-EM04 Hazardous areas visual inspection 2A

Evidence shall show an understanding of the purpose and process of hazardous areas visual inspections to an extent indicated by the following aspects:

T1 Occupational, health and safety procedures encompassing:

- occupational, health and safety procedures to be followed before entering hazardous areas; and
- occupational, health and safety procedures to be followed while conducting visual inspection.

T2 Requirements for a verification dossier and relationship to as-built electrical installation.

T3 Purpose, scope and limitations of visual inspections.

T4 Documentation requirements resulting from a visual inspection.

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.

EVIDENCE GUIDE

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.

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

EVIDENCE GUIDE

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:
  - Conduct close inspection of existing hazardous areas installations as described in 8) and including:

    A Working safely in a potentially hazardous area in relation to work permits and clearances, hazard monitoring and evacuation procedures, plant and electrical isolation

    B Identifying components of an installation and their location from documentation retained in the verification dossier. Inspecting equipment and wiring in a manner that does not reduce the type of protection afforded by the equipment design

    C Identifying visually compliant and non-compliant explosion-protected aspects of an electrical installation. Conducting close inspections

    D Documenting inspection outcomes

    E Applying relevant contingency management skills.

EVIDENCE GUIDE

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 conducting close inspection of existing hazardous areas installations.

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 concurrently with units:

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

Competencies required by a given industry or enterprise for plant or machinery operation or installations, 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 must 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

Custom Content Section

Competency Field **5**)

Hazards