



**Australian Government**

# **MEM13016 Work in hazardous areas**

**Release: 2**

# MEM13016 Work in hazardous areas

## Modification History

Release 2. Prerequisite units updated

Release 1. New unit

## Application

This unit has been developed for Engineering Tradesperson – industrial electrician apprenticeship training and the recognition of trade-level skills in working in hazardous areas.

It covers the basic requirements for performing installation and maintenance work on electrical equipment in hazardous areas. It provides a fundamental understanding of hazardous areas with regard to Electrical Equipment for Hazardous Areas (EEHA) principles, hazardous area classification definitions and factors affecting this aspect, protection techniques, ex-certification, competency requirements for personnel affecting hazardous areas, relevant standards and restrictions to repair work.

If more extensive skills are required for hazardous areas then the appropriate national accredited unit/s should be selected.

Some jurisdictions require the holder of this unit to be licensed or certified and users should check with the relevant authorities.

**Band: A**

**Unit Weight: 2**

## Pre-requisite Unit

MEM13015              Work safely and effectively in manufacturing and engineering

## Competency Field

Work health and safety

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- |                               |                                                                                                    |
|-------------------------------|----------------------------------------------------------------------------------------------------|
| 1. Determine job requirements | 1.1 Follow standard operating procedures (SOPs)                                                    |
|                               | 1.2 Comply with work health and safety (WHS) requirements at all times, including appropriate risk |

| Elements describe the essential outcomes. |                                    | Performance criteria describe the performance needed to demonstrate achievement of the element. |                                                                                                                                                                         |
|-------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           |                                    | control measures                                                                                |                                                                                                                                                                         |
|                                           |                                    | 1.3                                                                                             | Use appropriate personal protective equipment (PPE) in accordance with SOPs                                                                                             |
|                                           |                                    | 1.4                                                                                             | Identify job requirements from specifications, drawings, job sheets or work instructions                                                                                |
| 2.                                        | Prepare to work in hazardous areas | 2.1                                                                                             | Ascertain and interpret the area classification regarding zoning, gas group and temperature class from hazardous area layout drawings                                   |
|                                           |                                    | 2.2                                                                                             | Identify factors that may affect the classification of an area                                                                                                          |
|                                           |                                    | 2.3                                                                                             | Identify relevant hazards specific to hazardous areas and implement appropriate risk control measures                                                                   |
|                                           |                                    | 2.4                                                                                             | Obtain specialist tools, equipment and testing devices needed to carry out maintenance work                                                                             |
| 3.                                        | Work in hazardous areas            | 3.1                                                                                             | Carry out maintenance work in accordance with specifications and procedures                                                                                             |
|                                           |                                    | 3.2                                                                                             | Check and test equipment to ensure functionality and complies with appropriate documentation                                                                            |
|                                           |                                    | 3.3                                                                                             | Identify hazardous area defective and unsuitable equipment and components for the application and source replacement items with the appropriate equipment certification |
|                                           |                                    | 3.4                                                                                             | Carry out adjustment and/or permitted repairs to equipment using appropriate tools, equipment and techniques to specifications                                          |
| 4.                                        | Complete work in hazardous areas   | 4.1                                                                                             | Ensure all completed work and testing complies with the relevant EEHA Standards                                                                                         |
|                                           |                                    | 4.2                                                                                             | Record all inspection and maintenance activities according to established procedures and regulatory                                                                     |

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.  
requirements

## Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

**Compliance with relevant EEHA Standards includes:**

- hazardous area classification of the area regarding zone, gas group and temperature class
- factors affecting the zoning of an area
- protection technique of the equipment
- ex-certification
- competency requirements for personnel working on the equipment and the required supervision
- which repairs to the equipment may be restricted
- unauthorised modifications
- manufacturer specifications

## Unit Mapping Information

No equivalent unit

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

# Assessment Requirements for MEM13016 Work in hazardous areas

## Modification History

Release 2. Prerequisite units updated

Release 1. New unit

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, SOPs and safe work practices
- obtaining the relevant work permits and informing appropriate personnel prior to commencing work
- identifying and interpreting hazardous layout drawings and interpreting markings of hazardous areas classifications relevant to the work to be undertaken
- identifying hazards specific to hazardous areas and implementing appropriate risk control measures
- checking and testing equipment to ensure functionality of equipment
- identifying defective or unsuitable equipment and sourcing replacement items with the correct equipment certification
- carrying out adjustments or permitted repairs using appropriate tools, equipment and techniques in accordance with procedures and specifications
- ensuring all completed work and testing complies with the relevant EEHA standard along with equipment conformity certificate requirements and special conditions
- documenting all inspection and maintenance work in accordance regulatory requirements and SOPs.

## Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of PPE
- history and reasoning behind the EEHA Standards and accreditation creation
- aspects of hazardous area classification regarding zoning, gas group and temperature class
- markings of classifications on technical drawings
- situations which may alter the source of release conditions, thereby affecting the classification of an area
- hazards specific to hazardous areas
- different methods of protection, including:
  - Ex-d

- Ex-e
- Ex-n
- Ex-l
- Ex-p
- Ex-m
- relationship between the classification ratings of the equipment to the classification ratings of the area
- importance of earthing
- testing and certifying bodies, including International Electrotechnical Commission (IEC), Ex, ATEX, AUSEx, CSA and Fm
- documentation required for inspections.

## Assessment Conditions

Assessors must:

- have vocational competency in working in hazardous areas at least to the level being assessed with relevant industry knowledge and experience.
- satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* and comply with the *National Vocational Education and Training Regulator Act 2011* or equivalent legislation covering VET regulation in a non-referring State as the case requires.

Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturer specifications.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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