



Australian Government

UEEHA0017 Classify areas where a combustible dust hazard may arise

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to classify areas where explosive dust atmospheres and combustible dust layers may arise. It includes: applying area classification recommendations from relevant codes and standards to meet objectives, gathering and analysing data relative to potential explosion hazards, including characteristics of the hazardous materials; identifying and characterising sources of release; assessing dispersion and ventilation factors; considering housekeeping level; and determining the extent of the hazard and documenting findings.

Area classification should be carried out by those who understand the relevance and significance of properties of flammable materials (dust), and those who are familiar with the process and the equipment (refer AS/NZS60079.10.2).

This unit applies to personnel involved in the front-end engineering and design (FEED) scopes for facilities that may contain explosive dust atmospheres and combustible dust layers, as well as those persons involved in the ongoing operations, maintenance and/or modification of these same facilities, during the facility life cycle. It is appropriate for people who need to meet their responsibilities as required by AS/NZS3000:2018.

Site-specific work permits may be required to work in a classified hazardous area. In addition, other permits may be required, such as confined space and to operate specific pieces of equipment such as elevated work platforms in various jurisdictions. The classification process assists in the implementation of these safe systems of work.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

This unit is adopted from clause 2.16 of AS/NZS 4761.1:2018 Competencies for working with electrical equipment for hazardous areas (EEHA). There may be differences between the content of this unit and AS/NZS 4761.1:2018, so the Standard must be checked to ensure compliance with it. Clause 2.16 of AS/NZS 4761.1:2018 includes the following precondition for assessment:

- “A candidate seeking assessment in this unit shall have been deemed competent to gather and analyse technical data in a relevant engineering or scientific discipline at AQF level 7 or NZQF level 7 (BD) or equivalent.”

Pre-requisite Unit

There are no prerequisite units

Competency Field

Hazards

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Determine the combustible characteristics of the material and extent of explosion hazard

PERFORMANCE CRITERIA

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

- 1.1** Knowledge of the factors considered in classification of combustible dust atmospheres is applied
- 1.2** Consideration is given to reducing the extent of explosion hazards by the application of hierarchy of risk controls
- 1.3** Dust combustibility is determined in consultation with process specialists and relevant sources of information and, where applicable, obtaining confirmation by commissioning laboratory tests
- 1.4** Material characteristics such as particle size, moisture content, cloud and layer minimum ignition temperature and electrical resistivity, are obtained from process specialists and relevant sources of information and, where applicable, laboratory tests
- 1.5** Dust containment and sources of release, including likely formation of dust layers are identified from process personnel with operational and maintenance experience
- 1.6** The probability that dust will be released and form an

		explosive dust atmosphere in an installation is determined from possible causes and characteristics of release taking into account ventilation and dust extraction
2	Assign the type and extent of zones	2.1 Sources and grades of release and dust deposits in layering that may occur in the area are established from collected data and consultation with process specialists 2.2 Area classification zones are attributed according to the frequency and duration of the occurrence of explosive dust atmospheres 2.3 The extent of each zone is determined in accordance with the relevant standard and in consideration of examples of locations that may give rise to a zone 2.4 The nature of housekeeping is taken into account
3	Document classification and delineation of zones	3.1 Area classification processes and procedures are documented as required by the relevant standards including the level of housekeeping on which the classification is based 3.2 Classification documentation records are provided for future reference and for incorporation in the verification dossier

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Electrotechnology Training Package Companion Volume Implementation Guide.

Essential operating conditions include:

- existing, new or proposed site and engineering office associated with the activities where a combustible dust hazard may arise
- inspection access to site processes and operation personnel
- relevant plant design specifications and drawings, process line diagrams, relevant material data and

technical standards

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>