



Australian Government

UEEHA0028 Perform compliance audits of hazardous areas and related electrical installation

Release: 1

UEEHA0028 Perform compliance audits of hazardous areas and related electrical installation

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 conduct an audit of classified hazardous areas (e.g. where flammable gas or vapour hazards or explosive dust atmospheres and combustible dust layers have the potential to be, or are present), and the explosion-protection aspects of the related electrical installation, which include electrical, instrumentation, control and/or communications equipment and installations.

It includes: reviewing the processes given for the hazardous area and its compatibility with the classification documentation held in the verification dossier; determining by the use of various tools or resources (e.g. construction or maintenance systems, facility documentation), or by inspection whether equipment or systems are compliant for the area in which they are installed including wiring systems; evaluating the currency of documentation held in the verification dossier; and reporting audit results, including recommendations for remediation of non-compliance and required updating of the verification dossier or documents that support the verification dossier.

This unit applies to personnel required to audit areas that have been classified as hazardous in reference to AS/NZS60079.10.2 or equivalent. The auditing task itself would apply to the various lifecycle phases of an installation. It is appropriate for personnel that are required to complete some, or all, of the responsibilities required of 'The Person with Executive Function' (TPEF), as described in AS/NZS60079.17:2017, for example, where the continuous supervision maintenance strategy has been adopted, and there is a need to analyse or verify the effectiveness of the continuous supervision process.

Site-specific work permits may be required to work in the hazardous environment. 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. Before any audit is planned, these conditions of control are to be considered.

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 of competency and associated assessment requirements is adopted from clause 2.14 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 2.14 of AS/NZS 4761.1:2018 also includes the following precondition for assessment:

- “A candidate seeking assessment in this unit shall have been deemed competent to audit

compliance of electrotechnology systems at AQF level 4 or NZQF level 5 (BD) or equivalent.”

Pre-requisite Unit

UEEHA0004 Enter a classified hazardous area to undertake work related to electrical equipment

UEEHA0020 Conduct detailed inspection of electrical installations for hazardous areas

UEEHA0022 Determine the explosion-protection requirements to meet a specified classified hazardous area

UEEHA0038 Conduct visual and close inspection of electrical installations for hazardous areas

Competency Field

Hazards

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for and establish extent of the audit

PERFORMANCE CRITERIA

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

- 1.1** Records system (verification dossier) is reviewed to verify that essential hazardous area documentation is retained and procedures for maintaining records are established
- 1.2** Hazardous area classification processes are applied to auditing classification and design documentation including the procedures followed and verifying traceability and authentication
- 1.3** Details of any alterations/modification to the plant or processes are ascertained from consultation with responsible plant personnel
- 1.4** Type and intended location of each item of equipment and routes of wiring systems subject to audit are determined from design drawings and documentation

- 1.5** WHS policies and procedures for working in the given hazardous area are obtained and interpreted
 - 1.6** Compliant tools and equipment required for the audit are obtained and checked for correct operation and safety
- 2 Perform audit**
 - 2.1** WHS/OHS procedures, including compliance with requirements for isolation of explosion-protected equipment and circuits, are interpreted and applied
 - 2.2** Area classification documentation is examined for compliance of process, traceability and relevance to the current plant and processes
 - 2.3** Electrical design documents for the installation are assessed for compliance with the relevant standards and as-installed documentation
 - 2.4** Certification documentation and any repair/overhaul or compliance assessment record for item of explosion-protected equipment are assessed for compliance with requirements for the current plant and processes
 - 2.5** Appropriately authorised persons are directed to open equipment enclosures as required for the audit and on completion ensure integrity of explosion-protection is restored
 - 2.6** Electrical equipment and installation are audited for conformance to the design as-installed specifications and compliance with requirements of the applicable standards
 - 2.7** Inspection and maintenance records are evaluated against the condition of the plant and assessed for compliance with requirements
- 3 Report audit results**
 - 3.1** Differences between the hazardous area documentation (verification dossier), including the as-installed design specifications and installation, are reported
 - 3.2** Deficiencies and inaccuracies in site record and non-conformances of explosion-protected equipment and the installation, and recommendation for their rectification, are documented in the audit report
 - 3.3** The audit report is forwarded to the person responsible

for actioning the recommendation/s

- 3.4** The audit report is forwarded to the person responsible for maintaining the hazardous area documentation (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:

- an engineering office engaged in electrical design of electrical systems and installations for explosive atmospheres
- area classification documents
- installation design
- as-installed equipment
- inspection and maintenance records
- the hazardous area installation at the site and relevant authorised personnel

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>

Assessment Requirements for UEEHA0028 Perform compliance audits of hazardous areas and related electrical installation

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Performance Evidence

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

- establishing the extent of the audit including:
 - reviewing the verification dossier to confirm whether essential hazardous area documentation is retained and procedures for maintaining records are established
 - checking hazardous area classification and design drawings and documentation to confirm whether appropriate procedures have been followed and are traceable and authentic
 - ascertaining details of any alteration/modification to plant or processes
 - determining the type and intended location of each item of equipment subject to audit from design drawings and documentation
 - obtaining WHS/OHS policies and procedures and compliant tools and equipment needed for the audit
- performing audit including:
 - interpreting and applying WHS/OHS work procedures
 - examining area classification documentation for compliance of process, traceability and relevance to the current plant and processes
 - assessing electrical design documents for the installation for compliance with the relevant standards and as-installed documentation
 - assessing certification documentation and any repair/overhaul or compliance assessment record for item of explosion-protected equipment for compliance with requirements for the current plant and processes
 - directing appropriately authorized persons to open equipment enclosures as required for the audit and on completion ensuring integrity of explosion-protection is restored
 - auditing electrical equipment and installation for conformance to the design as-installed specifications and compliance with requirements of the applicable standards
 - evaluating inspection and maintenance records against the condition of the plant and accessing compliance with requirements
- reporting audit results including:
 - reporting differences between the hazardous area documentation (verification dossier), including the as-installed design specifications and installation

- documenting audit report deficiencies and inaccuracies in the site records and non-conformances of explosion-protected equipment and its installation and recommendation for rectification
- forwarding the audit report to the person responsible for acting on the recommendation and for maintaining the hazardous area documentation (verification dossier).

Knowledge Evidence

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

- documentation retained in a verification dossier appropriate and sufficient for the site and includes details such as the following where relevant including:
 - area classification including:
 - site drawings showing the horizontal and elevated delineation of each zone
 - explosive/flammable characteristics of the material creating the explosive atmosphere
 - information related to dust layers
 - justification/explanation for the zones and delineation
 - justification for the area classification
 - installation design including:
 - specification for non-hazardous areas
 - specification for each item of explosion-protected equipment
 - specification of wiring systems
 - equipment location drawings
 - cable schedule/route drawing for wiring system
 - as-installed equipment including:
 - certification documents for each item and manufacturer's information including limits of use
 - history of repairs/overhaul to an item of explosion-protected equipment including compliance assessment
 - certification documents for any second-hand equipment
 - fitness-for-purpose assessments
 - inspection and maintenance reports including:
 - initial inspection
 - periodic inspection schedules
 - maintenance program and actions
 - equipment repair/overhaul
 - other documentation required for the given purpose/activities of the site
- auditing process and procedures
- reference compliance standards for:
 - area classification
 - installation design

- selection of equipment
- installation/erection
- inspection and maintenance.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

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.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate tools and testing devices and PPE currently used in industry
- applicable documentation including:
- safe work methods
- verification dossier for the site including documentation of:
 - area classification
 - installation design
 - as-installed equipment
 - inspection and maintenance records
- electrical installation at the site.

Links

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