



Australian Government

Assessment Requirements for UEERE0059

Design energy management controls for electrical installations in buildings

Release: 1

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Modification History

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

This unit replaces and is not equivalent to UEERE0010 Design energy management controls for electrical installations in buildings. Modifications include:

- Prerequisite changed
- Significant amendments made to Elements and Performance Criteria
- Range of conditions updated
- Updates to performance and knowledge evidence requirements.

Performance Evidence

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

- applying relevant workplace procedures and practices, work health and safety (WHS)/occupational health and safety (OHS) requirements, including using risk control measures
- designing energy management controls for electrical installations in accordance with design brief, site, client, safety and functional requirements and budget limitations
- documenting and presenting final design.

Knowledge Evidence

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

- functions of a building management system (BMS) including:
 - protocol and priority of systems
 - different types and suppliers of building management systems
 - autonomous functions
 - input/output (I/O)
 - general I/O
 - installation management items
 - energy management
 - risk management

- information processing
- objectives
- building running costs
- smoke control as per relevant industry standards
- BMS hardware including:
 - system architecture
 - communication devices
 - substations
 - personal computers
 - interfaces with other systems
- I/O functions including:
 - digital I/O
 - digital output with status feedback
 - analogue I/O
 - sensors
 - alarms
 - equipment data protocols
- energy management including:
 - night cycle
 - optimum stop/start
 - time and event programs
 - night purge
 - outside air percentage control
 - enthalpy control
 - power demand control
 - duty cycle
 - presence detection
 - lighting control
 - schemes to promote to incorporate renewables and energy storage optimisation
 - financial stability
 - maximise benefit/investment
- information processing functions including:
 - computer systems
 - central system management
 - programs
 - system configuration and security
 - operator - machine interface
 - data points
- risk and maintenance management including:

- system files
- fire and intruder control
- access control
- relevant manufacturer specifications
- technical expertise required to support design and where/when they are required
- relevant WHS/OHS requirements
- relevant workplace documentation, policies and procedures.

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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable 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 materials, tools, facilities and equipment currently used in industry
- resources that reflect current industry practices in relation to designing energy management controls for electrical installations in buildings
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

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