



Australian Government

Assessment Requirements for UEERA0009 Audit energy use for commercial HVAC/R systems

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.

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 one occasion and include:

- interpreting performance/certification requirements correctly
- setting up and conducting appropriate system assessments and tests
- identifying non-compliance issues
- reporting assessment and test results and non-compliance issues and recommendations appropriately
- dealing with unplanned events
- analysing results from test data, including:
 - analysing electricity tariffs and implications
 - analysing total consumption versus peak load
 - comparing against industry standards
 - reviewing current practices against ideal
- applying relevant work health and safety (WHS)/occupational health and safety (WHS/OHS) workplace procedures and practices, including using risk control measures
- applying sustainable energy principles and practices
- auditing energy use for commercial heating, ventilation and air conditioning/refrigeration (HVAC/R) system, including:
 - documenting auditing activities results and appropriate actions
- planning audit energy use for a commercial HVAC/R application.

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:

- HVAC/R energy audits, safe working practices and relevant standards, codes and regulations, including:
 - identification of major energy consuming plant:

- review of HVAC/R system components
- methods of energy conservation:
 - review of energy conserving strategies
 - house keeping
 - time schedules
 - good maintenance practices:
 - filters, fans, appropriate set points and dead bands
 - HVAC/R system control:
 - night cycle
 - optimum stop/start
 - purge cycles
 - chiller/boiler/cooling tower sequencing
 - economy cycles (based on temperature or enthalpy)
 - supply air reset
 - condenser water temperature reset
 - electrical load control:
 - power demand control
 - load limiting
 - load shedding
 - set point relaxation
 - ventilation cycles
- tests and data collection procedures:
 - use of building management system for data collection (trending)
 - use of data recorders (loggers)
 - monitoring of building operations generally
- analysis of results from test data:
 - comparison against standards (BOMA)
 - revision of current practices against ideal
 - total consumption vs. peak load
 - electricity tariffs and implications
- methods of reducing energy usage:
 - plant retrofits
 - controls - application of strategies
 - plant - fixed OA to economy, boiler to electric reheat, constant volume to variable air volume (VAV) and cost-benefit (payback)
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation

- relevant workplace 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 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 materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- 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>