



Australian Government

UEERA0040 Evaluate and report on the indoor air quality of buildings

Release: 1

UEERA0040 Evaluate and report on the indoor air quality of buildings

Modification History

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

Application

This unit involves the skills and knowledge required to evaluate and report on the indoor air quality in buildings.

It includes working safely, setting up and conducting evaluation measurements, evaluating air quality from measured parameters, and reporting results, including recommending any resulting corrective actions.

Permits may be required for some work environments, such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work

UEERA0059 Prepare and connect refrigerant tubing and fittings

UEERA0036 Establish the basic operating conditions of vapour compression systems

UEERA0035 Establish the basic operating conditions of air conditioning systems

UEERA0050 Install refrigerant pipe work, flow controls and accessories

UEERA0094 Verify functionality and compliance of refrigeration and air conditioning installations

UEERA0081 Select refrigerant piping, accessories and associated controls

UEERA0031 Diagnose and rectify faults in air conditioning and refrigeration control systems

UEERA0092 Solve problems in low voltage refrigeration and air conditioning circuits

UEERL0005 Locate and rectify faults in low voltage (LV) electrical equipment using set

procedures

UEERL0004 Disconnect - reconnect electrical equipment connected to low voltage (LV) installation wiring

UEERL0001 Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply

UEERL0002 Attach cords, cables and plugs to electrical equipment for connection to 1000 V a.c. or 1500 V d.c.

Competency Field

Refrigeration and air-conditioning

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to evaluate and report on air quality in buildings

2 Evaluate air quality in buildings

PERFORMANCE CRITERIA

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

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|------------|--|
| 1.1 | Work health and safety (WHS)/occupational health and safety (OHS) procedures are obtained and implemented in accordance with workplace procedures |
| 1.2 | WHS/OHS risk control measures and workplace procedures for work are followed in preparation for the work |
| 1.3 | The extent of evaluation is determined from building ventilation/air conditioning specifications, internal/external environmental factors and discussions with relevant person/s |
| 1.4 | Advice is sought from work supervisor to ensure work is coordinated effectively with others |
| 1.5 | Tools, testing devices and materials required for the work are obtained and checked for correct operation and safety in accordance with workplace procedures |
| 2.1 | WHS/OHS risk control measures and workplace procedures for carrying out the work are followed |

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|----------|--|---|
| | 2.2 | Need to test and measure live work is determined in accordance with workplace procedures and WHS/OHS requirements |
| | 2.3 | Air quality requirements and regulations in buildings are applied to the evaluation process |
| | 2.4 | Air quality evaluation tests for each parameter under scrutiny are conducted in accordance with workplace procedures and test methods |
| | 2.5 | Air quality evaluation tests are conducted methodically and results/comments systematically noted |
| | 2.6 | Unplanned situations are dealt with safely with the approval of authorised person/s |
| | 2.7 | Evaluation is conducted without damage to systems, circuits, the surrounding environment and/or services using sustainable energy practices |
| 3 | Report on air quality buildings | |
| | 3.1 | WHS/OHS work completion risk control measures and workplace procedures are followed |
| | 3.2 | Worksite is cleaned and made safe in accordance with workplace procedures |
| | 3.3 | Results of air quality evaluation, including unacceptable conditions and recommendations for improvement, are documented |
| | 3.4 | Energy evaluation report is forwarded to appropriate person/s in accordance with workplace procedures |

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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Evaluating and reporting on indoor air quality • two different types of buildings with or

must include at least the following:

without air conditioning

Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ137A Evaluate and report on the indoor air quality of buildings.

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 UEERA0040 Evaluate and report on the indoor air quality of buildings

Modification History

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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, performance criteria and range of conditions on at least one occasion and include:

- determining the extent of the evaluation
- setting up and conducting appropriate examinations and tests
- reporting evaluation, including recommendation for improving energy efficiency
- dealing with unplanned events
- applying environmental and sustainable energy principles and practices
- applying relevant legislations, industry standards, codes of practice and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying safe working practices
 - hazard identification and reporting
 - implementing risk control measures
- determining need to test or measure live work
- documenting results of air quality evaluation
- evaluating and reporting on air quality in buildings
- performing air quality evaluation tests
- preparing to evaluate and report on air quality in buildings
- resolving indoor air quality problems.

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:

- indoor air quality, evaluation and reporting of a building's indoor air quality, safe working practices and relevant standards, codes and regulations including:
 - indoor air quality factors:
 - interactive nature of pollutants
 - comfort criteria

- source of odours
- pathway from source to occupants
- occupant activities
- impact on productivity
- causes of indoor air quality problems:
 - moisture
 - mould and mildew
 - bacterial growths
 - asbestos and other particulates
 - volatile chemicals produced in the building
 - chemical products
- heating, ventilation and air conditioning (HVAC) systems:
 - types of HVAC systems
 - system components
 - duct cleaning
 - system commissioning
 - operation of system
 - damper adjustment
- measurements:
 - common parameters to measure
 - measurement devices available
 - instrument calibration
 - analysing and interpreting results
 - laboratory tests
 - standards
 - evaluation and reporting of indoor air quality
- resolving indoor air quality problems:
 - conducting indoor air quality investigations
 - the walk-through
 - building history
 - HVAC system information
 - occupant interviews
 - troubleshooting
- indoor air quality management:
 - building indoor air quality profile
 - location of potential indoor air quality problems
 - procedures to control indoor air quality
 - communication
 - response to complaints

- equipment preventive maintenance
- chemical inventory
- relevant manufacturer specifications
- relevant tools, equipment and testing devices
- relevant WHS/OHS legislated requirements, including:
 - environmental and sustainable energy principles and practices
 - risk control measures
- 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

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