



Australian Government

UEERA0035 Establish the basic operating conditions of air conditioning systems

Release: 1

UEERA0035 Establish the basic operating conditions of air conditioning systems

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 determine operating conditions of air conditioning systems.

It includes working safely; determining air temperature, air flow rates and relative humidity using measurement and calculation methods.

The skills and knowledge in this unit will be applied by refrigeration and air conditioning technicians during the commissioning, service and repair of air conditioning systems.

The skills and knowledge described in this unit may, in some jurisdictions, require a licence or permit to practice in the workplace subject to regulations for undertaking refrigeration and air conditioning work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

Pre-requisite Unit

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

Competency Field

Refrigeration and air-conditioning

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

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| 1 Prepare to determine operating conditions of air conditioning system | 1.1 WHS/OHS hazards, risk control methods, relevant standards, codes and legislation are obtained and applied in accordance with workplace procedures |
| | 1.2 Safety hazards which have not previously been identified are assessed, reported and advice on risk control measures is sought from supervisor |
| | 1.3 System design operating conditions are obtained from documentation or supervisor to determine scope of work to be undertaken |
| | 1.4 Advice is sought from the supervisor to ensure work is coordinated effectively with others |
| | 1.5 Materials required for the work are identified and obtained in accordance with workplace procedures |
| | 1.6 Tools, equipment and testing devices needed to determine operating conditions are obtained and checked for correct operation and safety in accordance with workplace procedures |
| 2 Determine operating conditions of air conditioning system | 2.1 Measuring system operating parameters are implemented in accordance with job requirements and workplace safety procedures |
| | 2.2 Air conditioning system is checked and isolated in accordance with workplace procedures |
| | 2.3 Actual and specified range of operating conditions are determined from measured and calculated values as they apply to air conditioning system in accordance with workplace procedures |
| | 2.4 Methods for dealing with unplanned situations/events are discussed with appropriate person/s and documented |
| | 2.5 Unexpected situations are dealt with safely and with the approval of relevant person/s |
| | 2.6 Operating conditions for air conditioning system are determined without damage to apparatus, circuits, the surrounding environment or services using relevant workplace sustainable energy practices in accordance with workplace procedures |
| 3 Complete work and report | 3.1 Worksite and equipment are cleaned and made safe in accordance with workplace procedures |

- 3.2 Operating conditions are documented, including identification of any parameter that is not within the specified range for the of air conditioning system, in accordance with workplace procedures
- 3.3 Supervisor is notified of completion of work 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.

Determining operating conditions of air conditioning system must include at least the following:

- using measurement and calculation methods of air side components of air conditioning systems, including:
 - air dry and wet bulb temperatures
 - air velocity
 - relative humidity
 - volume flow rates across a grille/register

Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ104A Establish the basic operating conditions of air conditioning systems.

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 UEERA0035 Establish the basic operating conditions of air conditioning systems

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 two separate occasions and include:

- applying relevant work, health and safety (WHS)/occupational health and safety (OHS) requirements, including using risk control measures
- applying safe working practices and relevant industry standards, codes of practice and regulations
- applying sustainable energy principles and practices
- completing work documentation and reporting requirements
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining the basic operating conditions of an air conditioning systems, including the air dry and wet bulb temperatures, relative humidity, air velocity and volume flow rates across a grille/register and documenting operating conditions
- identifying operating parameters not within specified range of the air conditioning system
- interpreting measurements
- selecting and using appropriate measuring devices
- using calculation methods accurately.

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:

- operating condition of air conditioning system, including:
 - air conditioning industry classifications, applications and common types of systems
 - air conditioning processes
 - air velocity, units of measurement, measuring devices (anemometer only), applications and taking readings
 - air volume flow rate and its units of measurement
 - basic air conditioning heat loads and check figures

- factors effecting human comfort and the comfort zone
- hazards and risk control measures
- psychrometrics, composition of air and basic psychrometric chart properties and plotting points
- risk management principles, processes and safe working practices
- safety data sheets (SDS)/material safety data sheets (MSDS)
- sustainable energy principles and practices
- temperature and relative humidity, scales, measuring devices and taking readings
- ventilation needs, methods and applications
- volume flow rate calculations
- relevant industry standards, codes of practice, regulations and WHS/OHS legislated requirements
- relevant manufacturer specifications
- relevant risk mitigation processes
- 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, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

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