



Australian Government

UEERA0001 Analyse the operation of HVAC air and hydronic systems

Release: 1

UEERA0001 Analyse the operation of HVAC air and hydronic 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 analyse the operating parameters of heating, ventilation and air conditioning (HVAC) air and hydronic systems.

It includes working safely, applying knowledge of operating parameters, gathering and analysing data, applying problem-solving techniques, and developing and documenting results and solutions for use in design work.

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.

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

Pre-requisite Unit

UEERA0002 Analyse the psychrometric performance of HVAC/R systems

UEERA0003 Analyse the thermodynamic performance of HVAC/R systems

or

UEERA0094 Verify functionality and compliance of refrigeration and air conditioning installations

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

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 analyse the operation of HVAC air and hydronic systems

PERFORMANCE CRITERIA

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

- 1.1** WHS/OHS processes and procedures for a given work area are identified, obtained and applied
- 1.2** WHS/OHS risk control measures and workplace procedures are followed in preparation for the work
- 1.3** Operating analysis is determined from performance specifications, situation reports and consultations with relevant person/s
- 1.4** Activities are planned to meet scheduled timelines in accordance with workplace procedures and consultations with others involved in the work

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| | 1.5 | Strategies are formed for solution development and implementation is carried out in accordance with workplace procedures |
| 2 Analyse the operation of systems | 2.1 | WHS/OHS risk control measures and workplace procedures for carrying out the work are followed |
| | 2.2 | Principles of HVAC air and hydronic systems operating parameters are applied to analytical solutions to refrigeration and air conditioning systems |
| | 2.3 | Parameters, specifications and performance requirements in relation to HVAC air and hydronic systems are obtained in accordance with workplace procedures |
| | 2.4 | Analysis of operating parameters is carried out to provide solution in accordance with workplace procedures |
| | 2.5 | Unplanned events are dealt with safely in accordance with relevant industry standards and workplace procedures |
| | 2.6 | Quality of work is monitored in accordance with workplace procedures and relevant industry standards |
| 3 Report on results of operation systems analysis and actions taken | 3.1 | Results of system operating analysis are evaluated to determine performance requirements in accordance with workplace procedures and performance specifications |
| | 3.2 | Analysis, findings, calculations and assumptions are documented in accordance with workplace procedures |
| | 3.3 | Analysis is reported to relevant person/s to determine relevant action in accordance with workplace procedures |
| | 3.4 | Justification for findings and actions to be undertaken in relation to equipment is documented in relevant work/project and/or development records in accordance with relevant industry standards |

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.

Analysing operating parameters must include • two different HVAC systems
at least the following:

Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ164A Analyse the operation of HVAC air and hydronic systems.

Links

Companion Volume implementation guides are found in VETNet - -

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