



Australian Government

UEERA0003 Analyse the thermodynamic performance of HVAC/R systems

Release: 1

UEERA0003 Analyse the thermodynamic performance of HVAC/R 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 thermodynamic performance of heating, ventilation and air conditioning/refrigeration (HVAC/R) systems.

It includes analysing HVAC/R systems and providing solutions to thermodynamic performance issues. It also includes working safely, gathering and analysing thermodynamic performance data, applying problem-solving techniques, and developing and documenting results and solution/s.

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

Pre-requisite Unit

Not applicable

Competency Field

Refrigeration and air-conditioning

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to analyse thermodynamic performance of HVAC/R system

PERFORMANCE CRITERIA

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

1.1 Work health and safety (WHS)/occupational health and safety (OHS) processes and workplace procedures for a given work area are identified and applied

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| | 1.2 | WHS/OHS risk control measures and workplace procedures are followed in preparation for HVAC/R work |
| | 1.3 | Extent of the thermodynamic issues are determined from performance specifications and situation reports and in consultation with relevant person/s |
| | 1.4 | HVAC/R activities are planned to meet scheduled timelines in consultation with others involved in the work |
| | 1.5 | Strategies are formed to ensure HVAC/R analysis and solution implementation is carried out efficiently in accordance with workplace procedures |
| 2 | Analyse thermodynamic performance of HVAC/R system | |
| | 2.1 | WHS/OHS risk control measures and workplace procedures for carrying out HVAC/R work are followed |
| | 2.2 | Thermodynamic principles are applied to analytical solutions to HVAC/R system |
| | 2.3 | Parameters, specifications and performance requirements in relation to HVAC/R system are obtained in accordance with workplace procedures |
| | 2.4 | Analysis of HVAC/R thermodynamic parameters is carried out to provide effective solution/s |
| | 2.5 | Unplanned events are dealt with safely and effectively in accordance with regulatory requirements and workplace procedures in a manner that minimises risk to personnel and equipment |
| | 2.6 | Quality of work is monitored against performance agreement and/or workplace procedures or industry standards |
| 3 | Document and report results of the HVAC/R thermodynamic performance analysis and actions taken | |
| | 3.1 | Solutions to HVAC/R thermodynamic issues are evaluated to determine their effectiveness and modified, as required |
| | 3.2 | HVAC/R analysis is documented and includes details of findings, calculations and assumptions |
| | 3.3 | HVAC/R analysis is reported to appropriate person/s to |

determine appropriate action to be taken based on findings

- 3.4** Justification for findings and any actions to be undertaken in relation to the HVAC/R equipment is documented for inclusion in work/project or development records in accordance with industry standards and 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.

Analysing thermodynamic parameters of HVAC/R systems must include at least the following:

- two different refrigeration and air conditioning systems

Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ193A Analyse the thermodynamic performance of HVAC/R systems.

Links

Companion Volume implementation guides are found in VETNet - -

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