Australian Government

UEPMNT415 Diagnose and repair faults in complex refrigeration and air conditioning equipment

Release: 1

UEPMNT415 Diagnose and repair faults in complex refrigeration and air conditioning equipment

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to diagnose and repair faults in complex refrigeration and/or air conditioning equipment, associated accessories and wiring systems.

Refrigeration removes heat from an enclosed space, where air conditioning cools air and circulates it in an enclosed space. Complex refrigeration and air conditioning equipment is used to cool power generation facility plant and equipment.

Competency in this unit requires the ability to plan and prepare for work, verify fault, find fault, determine cause of fault, repair or rectify fault and complete all documentation. Individuals will, in general, work as a maintenance operative, in a power generation facility.

Power generation maintenance personnel are typically trained and authorised to receive permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit of competency may require a licence or training permit to practice in the workplace, where work is carried out on gas and electrical installations. Additional and/or other conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

UEENEEG108A Troubleshoot and repair faults in low voltage electrical apparatus and circuits

UEENEEE102A Fabricate, assemble and dismantle utilities industry components

UEENEEE104A Solve problems in D.C. circuits

UEENEEE105A Fix and secure electrotechnology equipment

UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEG006A Solve problems in single and three phase low voltage machines

UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits

UEENEEG063A Arrange circuits, control and protection for general electrical installations

UEENEEG101A Solve problems in electromagnetic devices and related circuits

UEENEEG102A Solve problems in low voltage A.C. circuits

UEENEEG106A Terminate cables, cords and accessories for low voltage circuits

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan and prepare for work	**1.1** Requirements including scope of work and assigned roles are identified and confirmed with appropriate personnel or by site inspection, in accordance with workplace procedures
	1.2 Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, legislative requirements, industry standards, codes of practice, manufacturers' specifications, environmental obligations and workplace procedures are reviewed in preparation for work
	1.3 Resources are obtained and inspected for compliance with job specification
	1.4 Relevant plans, drawings and manuals are selected and used, in accordance with workplace procedures
	1.5 Correct materials and components for work are obtained and inspected, in accordance with workplace procedures, for compliance with job specification
	1.6 Work is planned, sequenced and prioritised, in accordance with workplace procedures
	1.7 Potential hazards are identified and risk control measures are selected and implemented, in accordance

		with the workplace procedures
	1.8	Work area is prepared, in accordance with workplace procedures
2 Verify fault	**2.1**	Normal performance and function of complex refrigeration and/or air conditioning equipment is ascertained by consulting appropriate reference sources, in accordance with workplace procedures
	2.2	Fault indicators, technical information and diagnostic techniques are used to verify reported faults, in accordance with workplace procedures
	2.3	Faults are reproduced and monitored, if possible, in accordance with workplace procedures
3 Find fault	**3.1**	Isolations are confirmed, where appropriate, in accordance with workplace procedures and site requirements
	3.2	Complex refrigeration and/or air conditioning equipment components, wires, cables, terminations and support fixings are inspected for faults, in accordance with workplace procedures
	3.3	Appropriate fault finding or diagnostic techniques are identified, selected and used, in accordance with workplace procedures
	3.4	Appropriate components are disconnected, to enable accurate test measurements of suspected faulty components, without concern of back feed readings, in accordance with workplace procedures
	3.5	Test and measurement instruments are used, in accordance with workplace procedures and manufacturers' instructions
4 Determine cause of fault	**4.1**	Appropriate personnel are consulted to obtain details relating to faulty complex refrigeration and/or air conditioning equipment, in accordance with workplace procedures
	4.2	Use is made of information from fault indicators and maintenance records, in accordance with workplace procedures
	4.3	Conclusions about the nature and cause of fault based on analysis of evidence are used, in accordance with

		workplace procedures
5 Repair or rectify fault	**5.1**	Isolations are confirmed, where appropriate, in accordance with workplace procedures
	5.2	Faulty, worn, damaged or unsecured components are replaced, repaired or secured, in accordance with workplace procedures
	5.3	Parts and components are selected and are replaced, as required, in accordance with manufacturers' specifications and workplace procedures
	5.4	Components disconnected for testing are reconnected, having been proven free of faults, and all terminations are then checked to ensure they are electrically and mechanically sound, in accordance with workplace procedures
	5.5	All faults are repaired or rectified, in accordance with workplace procedures
	5.6	Final inspection is performed, in accordance with workplace procedures
6 Complete work	**6.1**	Work is completed and appropriate personnel are notified, in accordance with workplace procedures
	6.2	Work area is cleared of waste, cleaned, restored and secured, in accordance with workplace procedures
	6.3	Tools and equipment are maintained and stored, in accordance with workplace procedures
	6.4	Work completion details are finalised, 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPMNT415B Diagnose and repair faults in complex refrigeration/air conditioning equipment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8