



**Australian Government**

# **UEERA0093 Verify functionality and compliance of appliances**

**Release: 1**

# UEERA0093 Verify functionality and compliance of appliances

## 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 verify functionality and compliance of electrical refrigeration/air conditioning appliances.

It includes testing and visually inspecting electrical refrigeration/air conditioning appliance to verifying that it is safe and complies with requirements. It also includes following procedures for conducting safety and functionality tests, conducting visual inspections, identifying non-compliance defects, documenting results and recommendations, and initiating the rectification of any defect.

To undertake this unit, the learner must have a Trainee Refrigerant Handling Licence as it includes work on refrigeration and air conditioning equipment that carries the risk of a fluorocarbon refrigerant being emitted.

The skills and knowledge described in this unit require a national Refrigerant Handling Licence as it includes work on refrigeration and air conditioning equipment that carries the risk of a fluorocarbon refrigerant being emitted while decanting the refrigerant or manufacturing, installing, commissioning, servicing, maintaining or decommissioning refrigeration and air conditioning equipment.

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V alternating current (a.c.) or 120 V direct current (d.c.).

Competency development activities in this unit are subject to regulations directly related to licensing. Where a licence or permit to practice is not held, skills and knowledge described in this unit require a relevant contract of training, such as an Australian Apprenticeship.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to refrigeration, air conditioning or electrical work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

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

## Pre-requisite Unit

UEECO0004 Participate in appliance servicing work and competency development activities

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

- UEECD0019 Fabricate, assemble and dismantle utilities industry components
- UEECD0042 Solve problems in ELV single path circuits
- 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
- UEERA0091 Service small electrical appliances and power tools
- UEERA0044 Find and rectify faults in single phase motors and associated controls
- UEERA0043 Find and rectify faults in appliance control systems and devices
- UEERA0089 Service refrigeration appliances
- UEERA0085 Service clothes washing machines and dryers
- UEERA0063 Recover, pressure test, evacuate, charge and leak test refrigerants - appliances
- UEERA0092 Solve problems in low voltage refrigeration and air conditioning circuits
- UEERA0037 Establish the basic operating conditions of vapour compression systems - appliances
- UEERE0001 Apply environmentally and sustainable procedures in the energy sector
- UEERL0004 Disconnect - reconnect electrical equipment connected to low voltage (LV) installation wiring
- UEERL0005 Locate and rectify faults in low voltage (LV) electrical equipment using set procedures
- 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

### PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

**1 Prepare to verify functionality and compliance of electrical appliance**

- 1.1** WHS/OHS hazards, risk control methods, relevant standards, codes and legislation are obtained and applied
- 1.2** Safety hazards which have not been previously identified are noted and established risk control measures implemented
- 1.3** Appropriate person/s is consulted to ensure the work is coordinated effectively with others involved on the worksite
- 1.4** Inspection and tests are appropriately sequenced in accordance with job schedule
- 1.5** Materials needed for tests and verification are obtained in accordance with workplace procedures and checked against job requirements
- 1.6** Tools, equipment and testing devices needed to verify compliance are obtained in accordance with workplace procedures and checked for correct operation and safety

**2 Visually inspect appliances**

- 2.1** Electrical appliances are checked and isolated in accordance with WHS/OHS requirements and workplace procedures
- 2.2** Accessories and components are validated as being appropriately rated and meeting functional requirements
- 2.3** Evidence that equipment complies with safety and functional requirements is identified and documented
- 2.4** Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- 2.5** Electrical appliance inspection is carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy practices

**3 Conduct electrical appliance tests**

- 3.1** Testing or measuring on live electrical appliance and operating system is conducted in accordance with WHS/OHS requirements and workplace procedures

- 3.2 Appliance is checked and isolated in accordance with WHS/OHS requirements and workplace procedures
  - 3.3 Electrical tests are conducted to verify that the appliance electrical circuit within the appliance is safe and functions as intended
  - 3.4 Refrigeration/air conditioning tests are conducted to verify that the refrigeration/air conditioning components and pipe work within the appliance are safe and functions as intended
  - 3.5 Testing is carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy practices
- 4 Report inspection and verification findings**
- 4.1 Appliance is cleaned and made safe in accordance with established procedures
  - 4.2 Non-compliance defects are identified and reported in accordance with established procedures
  - 4.3 Recommendations for rectifying defects are made in accordance with established procedures
  - 4.4 Work completion is documented and appropriate person/s notified in accordance with established 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.

Verifying functionality and compliance of air conditioner/refrigeration system appliances must include at least the following:

- two types of appliances, including:
  - conducting visual inspection of appliances
  - conducting all electrical tests

Electrical testing must include at least the following:

- conducting all refrigeration tests
- isolation testing
- insulation resistance of equipment
- resistance of the internal circuits of equipment
- polarity of supply and equipment
- continuity of earthing
- correct electrical connections load current
- pressure test apparatus/circuits
- leak test apparatus/circuits
- evacuation test apparatus/circuits
- compressor efficiency
- controls tests
- refrigerant charge
- operating pressures
- system operation system capacity

Refrigeration/air conditioning testing must include at least the following:

## Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ161A Verify functionality and compliance of appliances.

## Links

Companion Volume implementation guides are found in VETNet - -

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