



**Australian Government**

# **UEERA0078 Resolve problems in ultra-low temperature refrigeration systems**

**Release: 1**

# UEERA0078 Resolve problems in ultra-low temperature refrigeration 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 fault find and repair ultra-low temperature refrigeration systems, including compound and cascade systems.

It includes working safely and to legislative, industry standards and code requirements; using effective problem-solving techniques by applying knowledge of the components and operations of ultra-low temperature refrigeration systems; completing work and documenting solutions.

The skills and knowledge in this unit will be applied by refrigeration and air conditioning technicians during the service and repair of ultra-low temperature refrigeration systems

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 volt (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

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.

#### **1 Prepare to resolve problems in ultra-low temperature refrigeration systems**

#### **2 Resolve problems in ultra-low temperature refrigeration systems**

### PERFORMANCE CRITERIA

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

- 1.1** WHS/OHS hazards, risk control methods, relevant standards, codes and legislation are obtained and applied in accordance with legislative, standard and code requirements and workplace procedures
- 1.2** Hazards not previously identified are noted and risk control measures implemented
- 1.3** Details of the problem are obtained from documentation and/or from supervisor to determine the scope of work to be completed
- 1.4** Advice is sought from supervisor, as required, 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 required for the work are obtained and checked for correct operation and safety
- 2.1** Need to test or measure live work is determined in accordance with legislative, standard and code requirements and workplace procedures
- 2.2** Circuits/machines/plant are checked as being isolated, where necessary, in accordance with legislative, standard and code requirements and workplace procedures

- 2.3 Problems are diagnosed using observations, measurements, calculations and comparisons with normal operating values of systems and components
  - 2.4 Information needed to resolve problems, including system specifications, 'as-installed' drawings, maintenance and service records, are obtained and evaluated against normal operating parameters
  - 2.5 Problems are resolved safely and with the approval of authorised person/s, as required
  - 2.6 Problems are resolved without damage to apparatus, circuits, the surrounding environment and/or services using relevant sustainable energy practices
- 3 Complete work and document problem-solving activities**
- 3.1 Worksite is cleaned and made safe in accordance with workplace procedures
  - 3.2 Justification for solutions used to resolve problems are documented in accordance with workplace procedures
  - 3.3 Completion of work tasks are documented and appropriate person/supervisor notified 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.

Solving problems in ultra-low temperature refrigeration systems must include at least the following:

- three operational problems related to ultra-low temperature refrigeration systems
- one compound or one cascade system

## Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ117A Resolve problems in ultra-low

temperature refrigeration systems.

## **Links**

Companion Volume implementation guides are found in VETNet - -

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