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# **UEERE9999Y Identify and isolate multiple supply 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 identify and isolate multiple supply systems.

It includes identifying locations of multiple supply systems within a premise with or without grid supply, performing shut down and isolation procedures and returning supply systems to normal operations.

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, a relevant contract of training, such as an Australian Apprenticeship, may be required.

Those holding an 'Unrestricted Electrician's Licence' or equivalent issued in an Australian state or territory meet the prerequisite requirements of this unit.

## **Pre-requisite Unit**

UEEEL0039 Design, install and verify compliance and functionality of general electrical installations

## **Competency Field**

Renewable Energy

## **Unit Sector**

Electrotechnology

## **Elements and Performance Criteria**

### **ELEMENTS**

### **PERFORMANCE CRITERIA**

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Elements describe the essential outcomes.

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

1 Prepare to isolate multiple supply systems

- 1.1 Legislation, regulations, standards, codes of practice and workplace requirements for the worksite are identified and referred to
- 1.2 Scope of work determined, implications of isolation/s are identified
- 1.3 Site specific information including manuals, drawings, operational information, labelling, shut down and start up procedures are identified and referred to
- 1.4 Worksite is assessed in accordance with workplace requirements
- 1.5 Hazards are identified, risks assessed and control measures identified and applied
- 1.6 Tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 1.7 Circuit testing devices are obtained and checked for correct operation and safety in accordance with workplace requirements
- 1.8 Relevant person/s are notified of supply systems shutdown and isolation in accordance with workplace requirements

2 Isolate multiple supply systems

- 2.1 Supply systems shutdown procedures are completed in accordance with site specific information and workplace requirements
- 2.2 Supply systems circuits are confirmed as de-energised and lock-out procedures followed

3 Re-instate multiple supply systems

- 3.1 Supply systems start up procedures are completed in accordance with site specific information and workplace requirements
- 3.2 Supply systems are confirmed as re-energised and tested for correct operation
- 3.3 Incidents or unplanned events are responded to in accordance with workplace requirements

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- 3.4 Relevant person/s are notified of re-instatement of supply systems in accordance with workplace requirements

## **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.

## **Unit Mapping Information**

This is a new unit.

## **Links**

Companion Volume implementation guides are found in VETNet - LINK POPULATED ON PUBLICATION

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# Assessment Requirements for UEERE9999Y Identify and isolate multiple supply systems

## Modification History

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## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant legislation, regulations, standards, codes of practice and workplace requirements including:
  - work health and safety (WHS)/occupational health and safety (OHS)
- identifying hazards, assessing risks, identifying, applying and monitoring control measures
- assessing worksite including:
  - locating switchboards and circuits
  - locating and interpreting site specific information
  - locating inverter energy systems (IES)/supply systems
  - applying awareness of unidentifiable supply systems
  - identifying and locating isolation devices
  - identifying and locating supply systems conductors
- shutting down and isolating supply systems for at least two of the following:
  - renewable energy IES
  - grid connected IES with stand-alone functionality
  - stand-alone IES
  - engine driven
- returning supply systems to normal operation for at least two of the following:
  - renewable energy IES
  - grid connected IES with stand-alone functionality
  - stand-alone IES
  - engine driven
- isolating multiple supply systems in accordance with workplace and regulatory requirements, including:
  - applying safe isolation practices
  - identifying correct isolation device/s
  - identifying live conductors
  - correctly using testing equipment

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- confirming systems are isolated
  - tagging-out all supplies
  - testing re-energised supply systems for correct operation and electrical safety
  - confirming documented shut down and start up procedures are correct including:
    - notifying appropriate person/s of any inconsistencies in the procedures
  - dealing with an unplanned event.

## Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- relevant legislation, regulations, standards, codes of practice and workplace requirements including:
  - WHS/OHS
  - hazard, risk assessment and risk control requirements including potential hazards
  - common injuries caused by multiple supply systems
  - notification to relevant person/s of shutting down and starting up supply systems
  - safe use of tools and equipment including:
    - testing equipment
- electrical isolation including:
  - anti-islanding
  - unidentifiable supply systems
  - need for ensuring the (safe) isolation of an electrical supply
  - isolation devices used in inverter energy systems (IES)
  - tagging and lockout
  - central protection systems
- characteristics, operations and safety functions of multiple supply systems including:
  - renewable energy IES
  - grid connected IES with stand-alone functionality
  - stand-alone IES
  - engine driven
- types and location of labelling for multiple supply systems
- site specific information including:
  - operational information
  - manuals
  - drawings
  - labelling
  - shutdown procedures and start up procedures

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- notification of inconsistencies in start up and shutdown procedures
  - working safely with electricity including:
    - hazards of direct current (d.c.) and alternating current (a.c.) electricity
    - effects of electric shock on the body
    - precautions to minimise the chance of electric shock
    - procedures for emergency involving electricity
    - common causes of electrical accidents.

## **Assessment Conditions**

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations, where it is appropriate to do so.

Where this is not appropriate, assessment must occur in simulated conditions involving realistic and authentic activities that replicate operational workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including workplace requirements, relevant industry standards, regulations, codes of practice and operation manuals.

## **Links**

Companion Volume implementation guides are found in VETNet - LINK POPULATED ON PUBLICATION