



Australian Government

UEERL0008 Disconnect-reconnect explosion-protected appliances and control devices connected to LV installation

Release: 1

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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 disconnect and reconnect flameproof (Ex 'd'), increased safety (Ex 'e') and intrinsic safety (Ex 'i') electrical equipment to supply up to 1,000 volts (V) alternating current (a.c.) or 1,500 volts (V) direct current (d.c.).

It includes working safely in hazardous areas, identifying supply arrangements, following isolation procedures, handling explosion-protected equipment, selecting and using testing and measuring devices, terminating and connecting cables and conductors, safety testing, reporting electrical faults and providing status report/s.

Hazardous area is one in which an explosive atmosphere is present, or may be expected to be present, in quantities such as to require special precautions for the construction, installation and use of equipment. In hazardous areas, precautions should be taken to reduce the likelihood of installed electrical equipment causing an ignition.

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 a.c. or 120 V 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.

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

Pre-requisite Unit

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

UEERL0004 Disconnect-reconnect electrical equipment connected to low voltage (LV) installation wiring

Competency Field

Restricted Licensing

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to disconnect electrical equipment

PERFORMANCE CRITERIA

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

1.1 Electrical equipment disconnection is planned to ensure WHS/OHS policies and workplace procedures are followed

1.2 Relevant person/s is consulted to ensure work is coordinated effectively with others

1.3 Safety hazards which have not previously been identified are documented, risks assessed, and control measures determined and implemented in consultation with relevant person/s in accordance with workplace procedures

1.4 Point of isolation of electrical equipment to be disconnected is determined

1.5 Tools, equipment and testing devices required for electrical work are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Disconnect electrical equipment

2.1 WHS/OHS policies and procedures are followed

2.2 Electrical equipment is isolated in accordance with relevant electrical installations, industry standards and workplace procedures

2.3 Conductor connection sequence is recorded and labelled in accordance with workplace procedures

2.4 Visual inspections and checks of the electrical equipment and associated wiring are carried out in accordance with workplace procedures to detect any abnormal or obvious damage or fault

2.5 Isolated equipment is confirmed as de-energised

- 2.6 Electrical equipment is disconnected from fixed wiring without damage to other components
 - 2.7 Approval is obtained in accordance with workplace procedures from relevant person/s before any contingencies are implemented
 - 2.8 Disconnected conductors/cables are terminated in accordance with relevant industry standards to ensure they are safe and present no potential hazard
- 3 Prepare to reconnect electrical equipment**
 - 3.1 Reconnection is planned to ensure WHS/OHS policies and workplace procedures are followed
 - 3.2 Relevant person/s is consulted to ensure work is coordinated effectively with others
 - 3.3 Point of isolation of the circuit to which the electrical equipment is to be connected is determined
 - 3.4 Replacement electrical equipment is selected on the basis of rating and specifications in accordance with designated electrical equipment and conditions
 - 3.5 Relevant person/s is consulted in the event that replacement electrical equipment is not available
 - 3.6 Original and/or replacement electrical equipment is inspected and tested to ensure it is safe to connect to the electrical supply and use
 - 3.7 Tools, equipment and testing devices needed to carry out the electrical work are obtained in accordance with workplace procedures and checked for correct operation and safety
- 4 Reconnect electrical equipment**
 - 4.1 WHS/OHS policies and procedures are followed
 - 4.2 Measures are taken to ensure circuit to which electrical equipment is to be connected remains isolated and de-energised in accordance with relevant electrical installations, industry standards and workplace procedures
 - 4.3 Continuity of the protective earthing conductor is tested to determine whether it is sufficiently low
 - 4.4 Resistance between the protective earthing conductor

and the neutral conductor is inspected and tested to determine that it is in accordance with relevant industry standards

- 4.5 Insulation resistance of active conductors is inspected and tested to confirm that it is in accordance with relevant industry standards
- 4.6 Appropriate person/s is consulted to regarding any non-compliance condition identified during the earthing and resistance conductor inspection and testing
- 4.7 Continuity between exposed conductive parts of the appliance and the main earth or metal switchboard enclosure is confirmed
- 4.8 Electrical equipment is connected in accordance with relevant industry standards
- 4.9 Connections to the electrical equipment are checked to confirm they are correct

5 Test the reconnected electrical equipment for safe operation

- 5.1 WHS/OHS policies and workplace procedures for the reinstatement of isolated circuits and electrical equipment are followed
- 5.2 Arrangements are made with relevant person/s to test the operation of the electrical equipment in accordance with workplace procedures
- 5.3 Operational non-conformances are identified and reported in accordance with workplace procedures

6 Identify and report faults

- 6.1 Electrical equipment is isolated in accordance with workplace procedures
- 6.2 WHS/OHS policies and procedures are followed
- 6.3 Visual inspection and checks of the electrical equipment to be disconnected and/or reconnected are carried out in accordance with workplace procedures to detect any abnormal or damage or fault
- 6.4 Faults at point of disconnection and/or reconnection are identified and reported in accordance with workplace procedures
- 6.5 Approval is obtained in accordance with workplace procedures from relevant person/s before any

contingencies are implemented

- 6.6** Status report/s is completed and relevant person/s 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.

Disconnecting and reconnecting equipment connected to supplies up to 1,000 V a.c. or 1,500 V d.c. explosion-protection techniques must include the following:

- flameproof (Ex ‘d’)
- increased safety (Ex ‘e’)
- intrinsic safety (Ex ‘i’)

MUST NOT INCLUDE

Disconnecting and reconnecting equipment connected to supplies up to 1,000 V a.c. or 1,500 V d.c. explosion-protection techniques must not include the following:

- comprised of complex electrical apparatus and circuits:
 - associated with fixed wiring, including locating and rectifying faults of circuits at a switchboard or to general electrical accessories (including switches, socket outlets, circuit protective devices); or
 - installation of or alteration to any part of the fixed electrical wiring system (defined as electrical installing work)
- where high fault currents are possible
- which are luminaries
- in hazardous areas or on electrical equipment that is part of an explosion-protection technique

Unit Mapping Information

This unit replaces and is equivalent to UEENEEP021A Disconnect - reconnect explosion-protected appliances and control devices connected to low voltage installation wiring.

Links

Companion Volume implementation guides are found in VETNet - -

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