Australian Government

UEERL0007 Disconnect-reconnect 3.3 kV electric propulsion components of self-propelled earth moving vehicles

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 isolate, disconnect and reconnect high voltage (HV) electric propulsion components on engine driven, self-propelled earth moving vehicles under the restrictions of designated electrical equipment and conditions specified, operating at 3,300 volts (V).

It includes working safely, identifying circuit and isolation arrangements, following isolation procedures, selecting and using HV testing and measuring devices, terminating and connecting HV cables and conductors, safety testing and reporting.

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, 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

Competency Field

Restricted Licensing

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 for disconnection or reconnection	**1.1** Designated HV electric propulsion components to be replaced are identified and purpose of the work is verified with relevant person/s
	1.2 WHS/OHS requirements and workplace procedures are followed in accordance with relevant industry standards
	1.3 Work clearances are obtained, and isolation and disconnection are followed in accordance with workplace procedures
2 Disconnect designated HV electric propulsion components	**2.1** Relevant electrical characteristics and protection specifications are identified in accordance with workplace procedures
	2.2 On-board cables are identified and marked, and connection sequence recorded
	2.3 Designated HV electric propulsion components are inspected for damage and conclusions verified with relevant person/s
	2.4 Visual inspections and checks of the designated HV electric propulsion components 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 Approval is obtained in accordance with workplace procedures from relevant person/s before any contingencies are implemented
	2.7 On-board cables are disconnected, where appropriate, without damage to terminals or components
	2.8 Designated HV electric propulsion component/s are dismantled, removed and/or replaced in accordance with relevant industry standards
	2.9 Designated HV electric propulsion components parts and/or associated components are stored appropriately to

		protect against damage
	2.10	Repairs to the removed equipment are in accordance with relevant industry standards and workplace procedures
3 Reconnect designated HV electric propulsion components	**3.1**	Cables are re-connected without damage to terminals or components
	3.2	Connections are checked and tested to confirm correct polarity and continuity
	3.3	Designated HV electric propulsion components are assembled and checked in accordance with relevant industry standards
	3.4	Designated HV electric propulsion components are inspected and tested for safety and correct operation
4 Prepare for return to service	**4.1**	Isolation devices are removed and work clearance is released in accordance with workplace procedures
	4.2	Documentation is completed in accordance with workplace procedures
	4.3	Relevant person/s is notified when designated HV electric propulsion components are ready for return to service 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 of HV electric propulsion components on engine driven, self-propelled earth moving vehicles operating at 3,300 V must not include the following:

- associated electrical work other than to disconnect and reconnect of HV electric propulsion components of off-road HV electric propulsion components on engine driven, self-propelled earth moving vehicles

operating at 3,300 V
- competencies associated with fixed wiring
- on complex electrical work
- where high fault currents are possible

Unit Mapping Information

This unit replaces and is equivalent to UEENEEP022A Disconnect and reconnect 3.3 kV electric propulsion components of self-propelled earth moving vehicles.

Links

Companion Volume implementation guides are found in VETNet - - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6