Australian Government

UEERE0070 Fault find and repair grid-connected photovoltaic power supply systems

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 fault find and repair grid-connected photovoltaic (PV) power supply systems.

It includes providing known solutions to predictable problems in photovoltaic modules arrays and energy storage systems.

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, is 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.

Note: Those holding an Unrestricted Electrician’s Licence or equivalent issued in an Australian state or territory meet the prerequisite requirement for UEEEL0012 Install low voltage wiring, appliances, switchgear and associated accessories. Other prerequisites must still be completed.

Pre-requisite Unit

UEERE0054 Conduct site survey for grid-connected photovoltaic and battery storage systems

UEEEL0012 Install low voltage wiring, appliances, switchgear and associated accessories

Competency Field

Renewable Energy

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 fault find and repair grid-connected PV systems	**1.1** Work health and safety (WHS)/occupational health and safety (OHS) processes and procedures for relevant work area are identified and applied in accordance with workplace procedures
	1.2 The nature of the fault/issue is identified from stakeholders and relevant data and documentation
	1.3 Requirements for working with other stakeholders are confirmed and applied
	1.4 Required materials, tools, apparatus and testing devices are identified, accessed and checked for correct operation and safety
	1.5 Need to test or measure live electrical work is determined in accordance with WHS/OHS requirements and workplace procedures
2 Fault find and repair grid-connected PV systems	**2.1** Circuits/apparatus are isolated in accordance with WHS/OHS requirements and workplace procedures
	2.2 Nature of reported fault/issue is verified
	2.3 System testing is conducted and documented
	2.4 Fault or faults are diagnosed, faulty equipment is identified, and the replacement products required are documented
	2.5 System is made safe, faulty apparatus is dismantled, recorded and stored in accordance with manufacturer guides and stakeholder instructions
	2.6 Repaired or replaced apparatus is assembled in accordance with manufacturer guidelines, industry standards and regulation
3 Complete and report repair work activities	**3.1** Repaired apparatus is tested and commissioned in accordance with manufacturer guidelines, industry standards and regulation

3.2 Work area is cleaned and made safe

3.3 Repair is documented and stakeholders notified

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.

Fault finding and repair grid-connected photovoltaic power supply systems must include at least three of the following:	• determining the operating parameters of an existing apparatus/modules • identifying and locating electrical faults • determining solar radiation faults and problems • identifying and locating mechanical fault.

Unit Mapping Information

This is a new unit

Links

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