



Australian Government

UEERE0016 Install, configure and commission LV grid-connected photovoltaic power 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 install and commission a low voltage (LV) photovoltaic (PV) power system to the grid power system.

It includes working safely and to industry installation standards, matching PV components specified for a given location, placing and securing system components accurately, making required circuit connections and completing the necessary installation documentation.

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 requirements of this unit.

Pre-requisite Unit

UEERE0022 Solve basic problems in photovoltaic energy apparatus and 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 Plan to install PV power system

- 1.1** Nature and location of the PV work is determined from documentation, diagrams or relevant person/s to determine the scope of work to be undertaken
- 1.2** WHS/OHS requirements and workplace procedures for a given work area are obtained and applied
- 1.3** Hazards are identified, risks assessed, control measures and workplace procedures implemented
- 1.4** Installation and/or alteration of the PV system is planned in consultation with persons effected by the work and sequenced appropriately
- 1.5** PV array mounting methods and roof orientation is determined in accordance with relevant industry standards
- 1.6** Location of PV system components is planned within the constraints of the building structure, significants and regulations
- 1.7** Material for the PV installation work is obtained in accordance with workplace procedures and checked against relevant diagrams and job requirements prior to installation
- 1.8** Need to test or measure live electrical work is determined in accordance with workplace safety procedures
- 1.9** Tools, equipment and measuring devices required for the PV installation work are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Install LV PV power system

- 2.1** Electrical WHS/OHS risk control measures and workplace procedures associated with extra-low voltage (ELV) and LV PV power system are followed
- 2.2** Circuits/machines/plant are checked as isolated in accordance with WHS/OHS requirements and

workplace procedures

- 2.3 PV system components are installed to comply with industry technical standards, job specifications and system requirements and with sufficient access to affect terminations, adjustment and maintenance
 - 2.4 Wiring is terminated at components and associated equipment in accordance with manufacturer specifications and functional and regulatory requirements
 - 2.5 Unplanned situations are dealt with safely in accordance with workplace procedures in a manner that minimises risk to personnel and equipment and with the approval of an authorised person
 - 2.6 PV system installation is carried out efficiently without waste of materials or damage to apparatus, circuits, the surrounding environment or services using sustainable energy principles
 - 2.7 Checks of installed apparatus quality and components are undertaken in accordance with workplace procedures
- 3 Complete and report PV installation activities**
- 3.1 Worksite is cleaned and made safe in accordance with workplace procedures
 - 3.2 Final inspections and tests are made to the installed apparatus to ensure installation conforms to job requirements, industry technical standards and manufacturer specifications

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.

Install, configuring and commissioning LV grid-connected PV power systems must

- installing PV power systems in at least two different types of premises, construction or

include: environment

Unit Mapping Information

This unit replaces and is equivalent to UEENEEK148A Install, configure and commission LV grid-connected photovoltaic power systems.

Links

Companion Volume implementation guides are found in VETNet - -

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