



Australian Government

UEERE0022 Solve basic problems in photovoltaic energy apparatus and systems

Release: 1

UEERE0022 Solve basic problems in photovoltaic energy apparatus and 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 solve problems with solar radiation, photovoltaic (PV) modules and the impact that tilt, location and orientation has on the output of a PV system.

It includes providing known solutions to predictable problems in photovoltaic energy modules and system operated at extra-low voltage (ELV) and low voltage (LV).

The skills and knowledge described in this unit do not require a license to practice in the workplace provided equipment is not connected to installation wiring at voltages above 50 volt (V) alternating current (a.c.) or 120 V direct current (d.c.). However, other conditions may apply in some states/territories subject to regulations related to electrical work.

No other licensing, legislative or certification requirements apply to this unit at the time of publication.

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

UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work

and

UEECD0043 Solve problems in direct current circuits

or

UEECD0044 Solve problems in multiple path circuits

UEECD0046 Solve problems in single path circuits

and

UEECD0025 Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits

or

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

Competency Field

Renewable Energy

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to work on PV energy apparatus and systems

2 Solve problems in PV energy apparatus and systems

PERFORMANCE CRITERIA

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

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for a given work area are obtained and applied
- 1.2** Hazards are identified, risks are assessed, and control measures and workplace procedures are implemented
- 1.3** Nature of apparatus/modules problem/s are identified from relevant documentation or work supervisor to determine the scope of work to be undertaken
- 1.4** Advice is sought from work supervisor to ensure the work is coordinated effectively with others
- 1.5** Materials required for the work are identified and accessed in accordance with workplace procedures
- 1.6** Tools, equipment and testing devices needed for the work are obtained and checked for correct operation and safety in accordance with workplace procedures
- 2.1** WHS/OHS risk control measures and workplace procedures are followed
- 2.2** Need to inspect, test or measure live work is determined and conducted, as required in accordance with job requirements and workplace safety procedures
- 2.3** Circuits are checked and isolated in accordance with WHS/OHS requirements and workplace procedures

- | | | | |
|---|--|-----|--|
| 3 | Complete work and document problem-solving activities | 2.4 | Problem-solving techniques are used to solve PV energy modules problems using measured and calculated values of apparatus/modules operating parameters |
| | | 2.5 | Problems are resolved without damage to apparatus/modules, circuits, the surrounding environment or services using sustainable energy practices |
| | | 3.1 | WHS/OHS risk control measures and workplace procedures for work completion are followed |
| | | 3.2 | Worksite is cleaned and made safe in accordance with workplace procedures |
| | | 3.3 | Justification for solutions used to resolve PV energy modules problems is documented in accordance with workplace procedures |
| | | 3.4 | Work completion is documented and appropriate 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.

Solving problems related to installation, fault finding, maintenance or development work functions must include at least three of the following types of PV energy problems and on at least two occasions:	<ul style="list-style-type: none"> • 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 unit replaces and is equivalent to UEENEEK125A Solve basic problems in photovoltaic

energy apparatus and systems.

Links

Companion Volume implementation guides are found in VETNet - -

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