



**Australian Government**

# **UEERE0011 Design grid-connected photovoltaic power supply systems**

**Release: 1**

# UEERE0011 Design grid-connected photovoltaic power supply 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 design grid-connected photovoltaic (PV) power supply systems.

It includes preparing to design, and developing and obtaining approval for grid connected power supply systems. It also includes designing grid-connected PV power supply system installation, following design briefs, incorporating schemes for protection of persons and property from dangers of system malfunctions, ensuring safety and performance standards and functional requirements are met, and documenting design calculations and criteria.

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

## Pre-requisite Unit

UEERE0022 Solve basic problems in photovoltaic energy apparatus and systems

## Competency Field

Renewable Energy

## Unit Sector

Electrotechnology

## Elements and Performance Criteria

### ELEMENTS

Elements describe the essential outcomes.

- 1 Prepare to design a grid-connected PV power supply system**

### 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 are identified and applied

- |          |                                                                         |                                                                                                                                                                  |
|----------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 1.2                                                                     | Grid system is determined from design brief                                                                                                                      |
|          | 1.3                                                                     | Industry regulations and job requirements are identified and applied to work in accordance with workplace procedures                                             |
|          | 1.4                                                                     | Design development work is planned to meet scheduled timelines in consultation with relevant person/s                                                            |
| <b>2</b> | <b>Develop a grid-connected PV power supply system design</b>           |                                                                                                                                                                  |
|          | 2.1                                                                     | Grid-connected power supply systems, performance standards and compliance methods are applied to the design                                                      |
|          | 2.2                                                                     | Alternative arrangements for hybrid power systems design is considered based on the requirements outlined in the design brief                                    |
|          | 2.3                                                                     | Safety, functional and budgetary considerations are incorporated in design                                                                                       |
|          | 2.4                                                                     | Grid-connected power supply system design draft is checked for compliance with the design brief, industry regulations, job requirements and workplace procedures |
|          | 2.5                                                                     | Grid-connected power supply system design is documented and submitted to relevant person/s for authorisation                                                     |
|          | 2.6                                                                     | Unplanned situations are responded to in accordance with workplace procedures                                                                                    |
| <b>3</b> | <b>Obtain approval for grid-connected PV power supply system design</b> |                                                                                                                                                                  |
|          | 3.1                                                                     | Grid-connected power supply system design is presented and explained to client and/or relevant person/s                                                          |
|          | 3.2                                                                     | Requests for alterations to design are negotiated with relevant person/s in accordance with workplace procedures                                                 |
|          | 3.3                                                                     | Final design is documented and authorisation obtained from relevant person/s                                                                                     |
|          | 3.4                                                                     | Quality of work is monitored against 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.

## Unit Mapping Information

This unit replaces and is equivalent to UEENEEK135A Design grid-connected photovoltaic power supply systems.

## Links

Companion Volume implementation guides are found in VETNet - -

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