



Australian Government

UEERE0063 Design off-grid photovoltaic/generating set 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.

This unit replaces and is not equivalent to UEERE0031 Design stand-alone renewable energy (RE) systems. Modifications include:

- Unit title changed
- Unit application updated
- Prerequisites changed
- Significant amendments made to Elements and Performance Criteria
- Range of conditions updated
- Significant amendments to Performance and Knowledge Evidence
- Assessment conditions updated.

Application

This unit involves the skills and knowledge required to design off-grid photovoltaic (PV) / generating set (Genset) systems.

It includes determining and developing off-grid PV systems design including gensets, following design briefs, documenting design calculations and criteria, and obtaining design approval.

This unit is appropriate for Licenced Electricians or Electrical Engineers with responsibility for designing off-grid photovoltaic/generating set systems.

Licensing, legislative or certification requirements that apply to this unit may differ between jurisdictions and system types. They should be checked prior to commencing this unit.

Pre-requisite Unit

UEERE0055 Conduct site survey for off-grid photovoltaic/generating set systems

and

UEEEL0039 Design, install and verify compliance and functionality of general electrical installations

or

UEERE0051 Apply electrical principles to renewable energy design

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 design off-grid PV/genset system

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) processes and workplace procedures for a given work area are identified, obtained and applied
- 1.2** Scope of the off-grid PV/genset system and electrical installation is determined from site survey report and design brief
- 1.3** Safety and regulatory requirements to which the electrical installation must comply are identified, obtained and applied
- 1.4** Design development work is planned to meet scheduled timelines in consultation with other person/s involved in the off-grid system installation or associated work

2 Develop off-grid PV/genset system design

- 2.1** Off-grid PV/genset system performance standards and compliance methods are applied to the design
- 2.2** Safety, functionality and budgetary considerations are incorporated in the off-grid PV/genset system design
- 2.3** Power and energy management requirements are incorporated in design
- 2.4** Design aspects are verified by qualified person/s
- 2.5** Off-grid PV/genset system design is drafted and checked for compliance with the design brief and regulatory requirements
- 2.6** Off-grid PV/genset system design is documented and submitted in line with industry standards and regulations, job requirements and 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.

Designing of-grid PV systems must include:

- two different off-grid PV/genset systems

Unit Mapping Information

This unit replaces and is not equivalent to UEERE0031 Design stand-alone renewable energy (RE) systems.

Links

Companion Volume Implementation Guides are found in VETNet -

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