



Australian Government

UEERE0057 Coordinate the design of micro-grid renewable energy systems

Release: 1

UEERE0057 Coordinate the design of micro-grid renewable energy 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 coordinate the design of micro-grid renewable energy systems.

It includes safe work practices, site survey processes and procedures, service provider responsibilities, consulting with qualified people to assess client energy demand requirements and assessing micro-grid equipment options to meet client requirements and site conditions. It also covers advice to the client on energy storage standards, codes of practices, government/utilities incentive schemes, and information related to the design and installation of a micro-grid renewable energy generation system.

This unit is appropriate for Licenced Electricians or Electrical Engineers with responsibility for coordinating site survey for, and the design of, micro-grid renewable energy 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

UEERE0054 Conduct site survey for grid-connected renewable energy systems

UEERE0055 Conduct site survey for off-grid PV/genset systems

UEERE0060 Design grid-connected energy storage systems

UEERE0061 Design grid-connected photovoltaic power supply systems

UEERE0063 Design off-grid PV 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

Elements describe the essential outcomes.

1 Prepare to coordinate design of micro-grid

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 relevant to site assessment are obtained and applied

1.2 Scope and scale of proposed micro grid is determined from project brief

1.3 Stakeholders and required experts that need to be consulted and involved are identified and engaged

1.4 Site survey plan is developed in consultation with required personnel

1.5 Equipment and documentation needed for the site survey are obtained in accordance with workplace procedures

1.6 Requirements for site survey, contractual obligations, and roles/responsibilities of people involved are discussed with stakeholder/s

1.7 Requirements for production and approval of design are identified and documented

2 Coordinate site survey for a micro-grid

2.1 Details of project brief are verified, and any discrepancies recorded

2.2 Current stakeholder/s energy usage data is collected and expected future energy generation needs are discussed, and expectations are clarified

- 2.3 Energy resource data is collected
- 2.4 Information about site access, building structures and layout, and existing electrical infrastructure is gathered and documented
- 2.5 Site hazards that may impact installation are identified and documented
- 2.6 Reports and data from technical experts are obtained and added to site survey data
- 2.7 Distribution/network requirements are determined where required
- 2.8 Site survey data is analysed and report prepared
- 3 Coordinate the design of micro-grid**
 - 3.1 Any relevant industry standards, building/electrical regulations, codes and jurisdictional approval process are identified
 - 3.2 Qualified person/s are consulted and briefed as required on site conditions, and client requirements and expectations
 - 3.3 Options for micro-grid energy generation equipment to meet site requirements and client expectations are identified and noted
 - 3.4 Different options for micro-grid energy storage equipment to meet site requirements and client expectations are identified and noted
 - 3.5 Placement of system components is considered, and any restrictions or issues of concern noted
 - 3.6 Micro-grid system performance standards and compliance methods are applied to the design development
 - 3.7 Safety, functional and budgetary considerations are incorporated in design
 - 3.8 Qualified person/s are consulted to ensure micro-grid system design draft complies with the design brief, industry standards and regulations, job requirements and workplace procedures
 - 3.9 Micro-grid system design is documented in line with industry standards and regulations, job

requirements and workplace procedures

- 3.10** Micro-grid system design is documented and submitted to relevant person/s for approval

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 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>