



Australian Government

UEPOPS457 Control electrical energy production

Release: 1

UEPOPS457 Control electrical energy production

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to control the safe operation of energy production to meet demand on an electricity generating unit.

Generating units usually operate independently, with most power generation production facilities consisting of several independent generating units which can be brought online or taken offline as demand fluctuates.

Competency in this unit requires the ability to plan for power generating plant operation, operate generator and excitation system, control generation of electrical energy and the completion of work. Individuals will, in general, work as an operator, in a power generation facility.

Power generation plant operators are typically trained and authorised to isolate, prepare plant and issue permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

There are no prerequisite units.

Competency Field

Operations

Unit Sector

Electricity generation

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 for plant operation

- 1.1 Safety issues related to controlling electrical energy production are identified, in accordance with Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, legislative requirements, industry standards and workplace procedures
- 1.2 Work, electrical energy production plant and resourcing are identified, in accordance with workplace procedures, from relevant information and documentation
- 1.3 Preoperational check on electrical energy production plant is carried out, in accordance with workplace procedures and site requirements

2 Operate generator and excitation system

- 2.1 Generator and excitation system is operated, in accordance with workplace procedures and manufacturers' operating recommendations
- 2.2 Synchronising requirements are assessed, evaluated and achieved, in accordance with workplace procedures, to ensure generator and excitation system stability
- 2.3 Generator and excitation system is monitored and observed, in accordance with workplace procedures, to detect deviations from normal operating conditions
- 2.4 Corrective actions are taken to rectify generator and excitation system abnormalities, in accordance with workplace procedures and manufacturers' recommendations

3 Control generation of electrical energy

- 3.1 Generator output is adjusted to meet demand, in accordance with workplace procedures
- 3.2 Reactive power generation and voltage regulation requirements are assessed, in accordance with workplace procedures, and the generator and excitation system is controlled to achieve desired output
- 3.3 Generator stabilities and operating limits are assessed and the generator and excitation system is controlled to maintain those limits, in accordance with workplace

procedures and manufacturers' recommendations

- 3.4** Generator cooling systems and limits are monitored and assessed and the generator and excitation system is controlled to maintain those limits, in accordance with workplace procedures and manufacturers' recommendations

- 4 Complete documentation**
- 4.1** Power generating plant problems, movements and status is reported, in accordance with workplace procedures
- 4.2** Documentation is updated, 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS457A Control electrical energy production.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>