



Australian Government

UEPOPS030 Coordinate power generation

Release: 1

UEPOPS030 Coordinate power generation

Modification History

Release 1. This is the first release of this unit of competency in the UEP Electricity Supply Industry - Generation Sector Training Package Release 2.0.

Application

This unit involves the skills and knowledge required to coordinate the operation and control of multiple power generators sharing load under the control of one operator.

Operators are responsible for starting and stopping power generators. Depending on need, this includes synchronising and adjusting voltage output, troubleshooting, fixing problems and responding to emergencies.

Competency in this unit requires the ability to plan for power generating plant operations, operate power generator and excitation system, control generation of electrical energy, coordinate generation control, monitor system and power generating plant and the completion of all documentation. Individuals will, in general, work as an operator with responsibility for coordinating power generation, in a power generation facility.

Power generation plant operators are 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.

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** Work health and safety (WHS)/occupational health and safety (OHS) regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, environmental requirements and workplace procedures are identified, applied and monitored
- 1.2** Work and resource requirements are identified from relevant personnel and documentation in accordance with workplace procedures
- 1.3** Preoperational checks of power generation plant operations are carried out in accordance with workplace procedures

2 Operate generator and excitation system

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

3 Control generation of electrical energy

- 3.1** Power generator output is adjusted to meet electricity demand in accordance with operating requirements and workplace procedures

- 3.2 Reactive power generation and voltage regulation requirements are assessed, and excitation system is controlled to achieve output in accordance with workplace procedures
 - 3.3 Generator stabilities and operating limits are assessed, and excitation system is controlled to maintain limits in accordance with manufacturers' recommendations and specifications, and workplace procedures
 - 3.4 Generator cooling systems and limits are monitored and assessed, and excitation system is controlled to maintain limits in accordance with manufacturers' recommendations and specifications, and workplace procedures
- 4 **Coordinate generation control**
 - 4.1 Load sharing between multiple generators is controlled to maintain efficiency and power generating plant reliability in accordance with workplace procedures
 - 4.2 Output of generators is adjusted to meet electricity demand in accordance with manufacturers' recommendations and specifications, and workplace procedures
 - 4.3 Generator, excitation system and power generating plant key indicators are monitored and adjusted to maintain limits and detect deviations from normal operating conditions in accordance with manufacturers' recommendations and specifications, and workplace procedures
 - 4.4 Generator and excitation system integrity and continuity of supply are maintained in accordance with manufacturers' recommendations and specifications, and workplace procedures
 - 4.5 Consultation with relevant personnel is undertaken in accordance with workplace procedures

- 4.6** Generator and excitation system are operated efficiently in accordance with manufacturers' recommendations and specifications, and workplace procedures
- 5 Monitor system and plant**
- 5.1** Generator and excitation system or power generating plant to be monitored are physically identified in accordance with workplace procedures
- 5.2** Generator and excitation system or power generating plant are monitored for normal operation and to detect deviations in accordance with workplace procedures
- 5.3** Relevant personnel are notified when defects and abnormal operating conditions are detected in accordance with workplace procedures
- 6 Analyse system and plant faults**
- 6.1** Causes of abnormal generator and excitation system operating conditions are identified by analysing technical and operational information in accordance with workplace procedures
- 6.2** Generator and excitation system or power generating plant integrity are maintained in consultation with relevant personnel and reference to technical and operational documentation in accordance with workplace procedures
- 6.3** Relevant personnel, including specialists, are arranged for investigation of identified operational abnormalities in accordance with workplace procedures
- 7 Complete documentation**
- 7.1** Power generation plant problems, movements and status are reported in accordance with workplace procedures
- 7.2** 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 UEP Electricity Supply Industry - Generation Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS515 Coordinate power generation.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>