



Australian Government

UEPOPS362 Operate and monitor generator/alternator

Release: 1

UEPOPS362 Operate and monitor generator/alternator

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 operate, inspect and monitor a generator and/or alternator.

An alternator is an electrical generator that converts mechanical energy to electrical energy in the form of an Alternating Current (AC). In contrast, a generator can produce either Alternating Current (AC) or Direct Current (DC).

Competency in this unit requires the ability to plan work, operate generator and/or alternator plant, test generator and/or alternator plant, analyse generator and/or alternator plant faults, monitor and inspect generator and/or alternator plant and the completion of all documentation. Individuals will, in general, work under supervision, in a power generation facility as an operator.

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

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan and prepare work

- 1.1 Safety issues related to operating and monitoring generator and/or alternator plant are identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety(OHS) regulations and legislative requirements
- 1.2 Work and generator and/or alternator plant are identified from appropriate personnel and documentation, in accordance with workplace procedures
- 1.3 Generator and/or alternator running up and loading schedule are ascertained from relevant documentation, in accordance with workplace procedures and site requirements
- 1.4 Inspection, preoperational tests and field preparations for generator and/or alternator plant service are carried out, in accordance with workplace procedures and manufacturers' recommendations
- 1.5 Generator and/or alternator plant operational prerequisites are established, in accordance with workplace procedures and manufacturers' recommendations
- 1.6 Sequence for recommissioning of generator and/or alternator plant is determined to suit existing circumstances, in accordance with workplace procedures and site requirements

2 Operate generator/alternator plant

- 2.1 Output is adjusted to achieve required generator and/or alternator operating requirements and demand, in accordance with workplace procedures
- 2.2 Generator and/or alternator plant is operated within limits of its' design and regulators' requirements, in accordance with workplace procedures
- 2.3 Generator and/or alternator plant is monitored and observed, in accordance with workplace procedures, to detect deviations from required operating conditions

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| | 2.4 | Corrective actions are taken to rectify generator and/or alternator abnormalities, in accordance with workplace procedures and manufacturers' recommendations |
| 3 Test generator/alternator plant operation | 3.1 | Operational tests are performed, in accordance with workplace procedures |
| | 3.2 | Generator and/or alternator plant is observed for correct operational response, in accordance with workplace procedures |
| | 3.3 | Corrective action is taken, in accordance with workplace procedures, when response does not meet with documentation, generator and/or alternator plant integrity or personnel safety requirements |
| | 3.4 | Generator and/or alternator plant is returned to required operational status upon completion of testing, in accordance with workplace procedures |
| 4 Analyse generator/alternator plant faults | 4.1 | Cause of abnormal generator and/or alternator plant operating conditions are identified, in accordance with workplace procedures, by analysing technical and operational information |
| | 4.2 | Corrective actions to rectify generator and/or alternator faults are determined, in accordance with workplace procedures |
| | 4.3 | Generator and/or alternator plant integrity and personnel safety is maintained, in accordance with workplace procedures, and in consultation with appropriate personnel and technical and operational documentation |
| 5 Monitor and inspect generator/alternator plant | 5.1 | Generator and/or alternator plant to be monitored and inspected is physically identified, in accordance with workplace procedures |
| | 5.2 | Generator and/or alternator plant is monitored and inspected, in accordance with workplace procedures, for normal operation or to detect deviations |
| | 5.3 | Corrective action is taken, in accordance with workplace procedures |
| | 5.4 | Appropriate personnel are notified when defects are detected, in accordance with workplace procedures |
| 6 Complete documentation | 6.1 | Generator and/or alternator plant movements, |

abnormalities and status are reported, in accordance with workplace procedures

- 6.2** 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 UEPOPS362A Operate and monitor generator/alternator.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for UEPOPS362 Operate and monitor generator/alternator

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- analysing generator and/or alternator plant faults using data analysis techniques and tools
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with personnel
- completing documentation using recording procedures
- identifying generator and/or alternator plant status
- interpreting manufacturers' specifications and manuals
- monitoring and inspecting generator and/or alternator plant operations including adjusting generator and/or alternator voltage, frequency and power factors and site target values
- operating a generator and/or alternator unit
- organising resources
- preparing and planning work
- recognising and responding to abnormal generator and/or alternator plant operating conditions
- testing generator and/or alternator plant operationally using diagnostic and test techniques
- working with generator and/or alternator plant and/or equipment
- working with permit to work system

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- abnormal generator and/or alternator behaviour
- generator and/or alternator plant and equipment, its location and operating parameters

including types and characteristics

- generator and/or alternator voltage, frequency and power factors and site target values
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- permit to work system
- WHS/OHS legislated requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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