



Australian Government

UEPOPS052 Manage high voltage network system

Release: 1

UEPOPS052 Manage high voltage network system

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 manage a high voltage (H.V.) network system that may be interconnected, remote or isolated.

Operators seek to optimise and manage H.V. network systems that are deployed to supply, transfer and store electrical power through efficient and safe operations at power generation facilities. This includes identifying faults, taking corrective actions and using protection programs to ensure network system stability.

Competency in this unit requires the ability to plan network system operations, manage and control network system, analyse and respond to network system faults or incidents, review incident response and preventative procedures, and complete all documentation. Individuals will, in general, work as an operator with responsibility for managing a H.V. network system, 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

UEPOPS026 Coordinate the network system.

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 and prepare network system operations

- 1.1** Information and documentation to determine power generation network system status is assessed and evaluated in accordance with H.V. system operating requirements and workplace procedures
- 1.2** 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
- 1.3** Power generation network system and associated equipment operational prerequisites are established in accordance with H.V. system operating requirements and workplace procedures
- 1.4** Sequence for operation of power generation network system sections and equipment is created for a range of potential scenarios in accordance with H.V. system operating requirements and workplace procedures
- 1.5** Power generation network system forecast is based on assessment of data and relevant information in accordance with H.V. system operating requirements and workplace procedures

2 Manage and control network system

- 2.1** Power generation network system is operated and managed in accordance with H.V. system operating requirements and workplace procedures
- 2.2** Power generation network system demand is managed using a contingency plan and strategies to maintain quality of supply in accordance with H.V. system operating requirements and workplace procedures
- 2.3** Power generation network system voltage and current requirements are assessed, evaluated and managed to maintain stability and H.V. system integrity in accordance with H.V. system operating requirements and workplace procedures
- 2.4** Voltage load profiles are identified to minimise transmission losses in accordance with power generation network system, H.V. system operating requirements

and workplace procedures

- 2.5 Power generation network system load shedding sequence and priorities are monitored and managed to ensure H.V. system integrity in accordance with H.V. system operating requirements and workplace procedures
- 2.6 Power generation network system data is monitored and managed for normal operation and to detect deviations in accordance with H.V. system operating requirements and workplace procedures
- 2.7 Corrective actions to rectify abnormalities in power generation network system are implemented following assessment of data in accordance with H.V. system operating requirements and workplace procedures
- 2.8 Resources to meet power generation network system requirements are managed in accordance with H.V. system operating requirements and workplace procedures

3 Analyse and respond to network system faults

- 3.1 Causes of power generation abnormal network system operating conditions are identified by analysing technical and operational information in accordance with H.V. system operating requirements and workplace procedures
- 3.2 Operation and management of power generation network system protection program is evaluated to determine nature and cause of faults in accordance with H.V. system operating requirements and workplace procedures
- 3.3 Communication with key stakeholders is established and managed to assist in identifying nature and source of H.V. system interference in accordance with H.V. system operating requirements and workplace procedures
- 3.4 Power generation network system integrity and personnel safety are managed in consultation with relevant personnel and technical and operational documentation, including contingency plans, in accordance with H.V. system operating requirements and workplace procedures

4 Review incident response

- 4.1 Power generation facility network system incident

and preventative procedures	responses are assessed and reviewed in accordance with H.V. system operating requirements and workplace procedures
	4.2 Alternative responses to contingencies are identified and assessed in accordance with H.V. system operating requirements and workplace procedures
	4.3 Alternative responses to contingencies are documented and managed in accordance with H.V. system operating requirements and workplace procedures
5 Complete documentation	5.1 Network system problems, movements and status are reported in accordance with H.V. system operating requirements and workplace procedures
	5.2 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 UEPOPS512 Manage high voltage network system.

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 UEPOPS052 Manage high voltage network system

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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 and performance criteria on at least two separate occasions and include:

- analysing and responding to faults and abnormal high voltage (H.V.) network system operating conditions using diagnostic techniques
- analysing and responding to H.V. network system faults or incidents using data analysis techniques and tools
- ascertaining type of H.V. network system
- applying work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency procedures and techniques
 - risk control measures
 - safe working practices and procedures
- communicating with key stakeholders
- completing documentation using recording procedures
- directing and coordinating personnel and stakeholders
- identifying power generating facility's plant status
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- managing and controlling H.V. network system operations
- planning H.V. network system operations
- preparing for H.V. network system operations
- reviewing incident response and preventative procedures
- selecting relevant load shedding
- using permit to work system
- working with contingency plans.

Knowledge Evidence

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

- arrangements of power production plant
- contingency plans
- H.V. load shedding principles
- H.V. network system types and characteristics
- permit to work system
- power generation plant and equipment, location and operating parameters
- power generation plant status
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- WHS/OHS requirements, including:
 - emergency procedures and techniques
 - risk control measures
 - safe working practices and procedures
- workplace documentation
- workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

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.

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 (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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