



Australian Government

UEPOPS512 Manage high voltage network system

Release: 1

UEPOPS512 Manage high voltage network system

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 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 the completion of 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 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

UEPOPS420 Coordinate the network system.

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 network system operations

- 1.1 Information and documentation to determine power generation network system status is assessed and evaluated, in accordance with High Voltage (H.V.) system operating requirements
- 1.2 Power generation network system and associated equipment operational prerequisites are established, in accordance with H.V. system operating procedures
- 1.3 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 procedures
- 1.4 Power generation network system forecast is based on assessment of data and relevant information, in accordance with H.V. system operating procedures

2 Manage and control network system

- 2.1 Power generation network system is operated and managed, in accordance with H.V. system operating procedures
- 2.2 Power generation network system demand is managed using a contingency plan and strategies to maintain quality of supply, in accordance with legislative requirements and H.V. system operating procedures
- 2.3 Power generation network system voltage and current requirements are assessed, evaluated and managed to maintain stability and H.V. system integrity
- 2.4 Voltage load profiles are identified and adhered to, in accordance with power generation network system, to minimise transmission losses
- 2.5 Power generation network system load shedding sequence and priorities are monitored and managed, to ensure H.V. system integrity
- 2.6 Power generation network system data is monitored and managed, for normal operation or to detect deviations

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| | 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 procedures |
| | 2.8 | Resources to meet power generation network system requirements are managed, in accordance with H.V. system operating 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 procedures |
| | 3.2 | Operation and management of power generation network system protection program is evaluated to determine nature and cause of faults |
| | 3.3 | Communication with key stakeholders is established managed, to assist in identifying nature and source of H.V. system interference |
| | 3.4 | Corrective action is taken, in accordance with H.V. system operating procedures |
| | 3.5 | Power generation network system integrity and personnel safety are managed, in accordance with H.V. system operating procedures, and in consultation with appropriate personnel and technical and operational documentation including contingency plans |
| 4 Review incident response and preventative procedures | 4.1 | Power generation facility network system incident responses are assessed and reviewed, in accordance with system operating procedures |
| | 4.2 | Alternative responses to contingencies are identified and assessed, in accordance with system operating procedures |
| | 4.3 | Alternative responses to contingencies are documented and managed, in accordance with system operating procedures |
| 5 Complete documentation | 5.1 | Network system problems, movements and status is reported, in accordance with workplace and system operating 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS512B Manage the 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 UEPOPS512 Manage high voltage network system

Modification History

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

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 and responding to faults and abnormal 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 legislation, industry standards, codes of practice and regulations
- managing and controlling H.V. network system operations
- planning High Voltage (H.V.) network system operations
- preparing for H.V. network system operations
- reviewing incident response and preventative procedures
- selecting appropriate 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, performance criteria and range of conditions and includes knowledge of:

- contingency plans
- H.V. load shedding principles
- H.V. network system types and characteristics
- legislation, industry standards, codes of practice and regulations
- permit to work system
- power generation plant and equipment, its location and operating parameters
- power generation plant status
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - emergency procedures and techniques
 - risk control measures
 - safe working practices and procedures
- 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.

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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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