



Australian Government

UEPOPS424 Coordinate local H.V. networks

Release: 1

UEPOPS424 Coordinate local H.V. networks

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 coordinate the control and management of High Voltage (H.V.) substations and/or local networks.

H.V. substations are a node point in power generation infrastructure. They transform voltage from high to low, or the reverse, and enable the reliable transmission of large amounts of power.

Competency in this unit requires the ability to plan and prepare work; operate, monitor and control H.V. substation and local network; analyse and respond to H.V. substation or local network faults or incidents; review incident response and preventative procedures and complete all documentation. Individuals will, in general, work as an operator with responsibility for H.V. network coordination, 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

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 Documentation to determine High Voltage (H.V.) substation and/or local network status is assessed and evaluated, in accordance with workplace procedures
- 1.2 H.V. substation or local network equipment operational prerequisites are established, in accordance with manufacturers' requirements and workplace procedures
- 1.3 Sequence for operating local network section and equipment is determined, in accordance with workplace procedures and site requirements
- 1.4 Information to forecast and plan response for efficient operation of H.V substation or local network is utilised, in accordance with workplace procedures
- 1.5 Regular consultation with key stakeholders is maintained, in accordance with workplace procedures
- 1.6 Implications of operator's actions to H.V substation or local network are identified and assessed, in accordance with workplace procedures

2 Operate, monitor and control H.V. substation and local network

- 2.1 Local network is operated and coordinated, in accordance with workplace procedures
- 2.2 Local network voltage and current requirements are assessed and evaluated, in accordance with workplace procedures, to maintain stability and system integrity
- 2.3 Voltage and/or load profiles are identified and adhered to, in accordance with workplace procedures
- 2.4 Corrective actions to rectify H.V. substation or local network abnormalities are implemented following analysis of data, in accordance with manufacturers' requirements and workplace procedures
- 2.5 Resources are identified and coordinated to meet H.V. substation or local network system requirements, in accordance with workplace procedures

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| 3 Analyse and respond to H.V. substation and local network faults or incidents | 3.1 | Cause of H.V. substation or local network fault conditions are identified, in accordance with workplace procedures, by analysing technical and operational information in consultation with system control personnel |
| | 3.2 | Operation of protection systems for H.V. substation or local network is identified and assessed, in accordance with workplace procedures, to evaluate nature and cause of fault conditions |
| | 3.3 | Communication is established with key stakeholders, in accordance with workplace procedures, to identify nature or source of H.V. substation or local network system interference |
| | 3.4 | Corrective action is taken, in accordance with workplace procedures |
| | 3.5 | Local system integrity and personnel safety are maintained, in accordance with workplace procedures, through consultation with appropriate personnel and operational documentation and contingency plans |
| 4 Review incident response and preventative procedures | 4.1 | Incident or fault responses are assessed and reviewed, in accordance with workplace procedures |
| | 4.2 | Alternative responses or contingency plan strategies are identified and assessed, in accordance with workplace procedures |
| | 4.3 | Alternative responses or contingency plan strategies are documented and approved, in accordance with workplace procedures |
| 5 Complete documentation | 5.1 | H.V. substation or local network problems, movements and status are reported, in accordance with 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS424B Coordinate local H.V. networks.

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 UEPOPS424 Coordinate local H.V. networks

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 H.V. substation and/or local network faults or incidents
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with key stakeholders
- communicating with personnel and external agencies
- completing documentation using recording procedures
- identifying power generation plant status
- implementing legislation, industry standards, codes of practice and regulations
- interpreting manufacturers' specifications and manuals
- operating, monitoring and controlling local High Voltage (H.V.) substation and/or local network
- preparing for H.V. network system operations
- recognising and responding to abnormal H.V. substations and local network operating conditions using data analysis techniques and tools
- reviewing incident response and preventative procedures
- using 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:

- abnormal operating conditions in H.V substations and local networks
- contingency plans
- coordination of H.V substations and local networks

- H.V substations and local network types and characteristics
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- power generating plant and equipment, its location and operating parameters
- power generating plant status
- typical arrangements of power production plant
- 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.

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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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