



Australian Government

UEPOPS108 Operate and monitor system equipment

Release: 1

UEPOPS108 Operate and monitor system equipment

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 operate, monitor and control high voltage (H.V.) apparatus on the system via supervisory control and data acquisition (SCADA) control.

SCADA is a control system that uses computers, networked data communications and graphic interfaces. It uses other peripheral devices such as programmable logic controllers (PLCs) and discrete proportional integral derivative (PID) controllers to interface with plant, equipment or machinery.

Competency in this unit requires the ability to plan work, operate system equipment, monitor system equipment, analyse system equipment faults and complete all documentation. Individuals will, in general, work under supervision, in a power generation facility as an operator.

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

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

- | | |
|---------------------------------------|---|
| 1 Plan and prepare work | <ul style="list-style-type: none">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 monitored1.2 Work requirements are identified from relevant personnel and documentation in accordance with workplace procedures1.3 System and associated H.V. apparatus and SCADA equipment operational prerequisites are identified and established in accordance with manufacturers' recommendations and specifications, and workplace procedures1.4 Sequence for recommissioning of system and H.V. apparatus and equipment through SCADA is identified and determined in accordance with workplace procedures |
| 2 Operate system and equipment | <ul style="list-style-type: none">2.1 System and equipment and SCADA programs are operated in accordance with workplace procedures2.2 Load shedding requirements are identified, selected and monitored during equipment operations to ensure system integrity in accordance with workplace procedures2.3 System and operations are completed in consultation with relevant personnel in accordance with workplace procedures |
| 3 Monitor system and equipment | <ul style="list-style-type: none">3.1 Voltage and current requirements are assessed, evaluated and controlled to maintain system and equipment integrity and stability in accordance with workplace procedures3.2 System and equipment are monitored for normal operations and to detect deviations in accordance with workplace procedures3.3 Corrective actions to rectify system and equipment abnormalities are taken in accordance with workplace procedures3.4 Relevant personnel are notified when system and equipment defects and abnormal operating conditions are detected in accordance with workplace procedures |

- | | |
|--|---|
| 4 Analyse system and equipment faults | 4.1 Cause of system equipment operating faults are identified by analysing technical and operational information in accordance with workplace procedures |
| | 4.2 Operation of protection system is identified and assessed evaluate nature and cause of fault conditions in accordance with workplace procedures |
| | 4.3 Communication is established with key stakeholders to identify nature and source of equipment system fault and failure in accordance with workplace procedures |
| | 4.4 System integrity and personnel safety are maintained in consultation with relevant personnel and technical and operational documentation, including contingency plans, in accordance with workplace procedures |
| 5 Complete documentation | 5.1 Equipment 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 UEP Electricity Supply Industry – Generation Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS441 Operate and monitor system equipment.

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 UEPOPS108 Operate and monitor system equipment

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.

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 system equipment 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
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- interpreting manuals
- monitoring system equipment and identifying status
- operating screen-based equipment
- operating, monitoring and controlling high voltage (H.V.) apparatus through use of supervisory control and data acquisition (SCADA) system
- planning and preparing work
- recognising and responding to abnormal system equipment operating conditions.

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
- operation of SCADA system
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- system equipment, including location, operating parameters and status
- WHS/OHS requirements, including:

- emergency procedures
- risk control measures
- safe working practices
- 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

Companion Volume implementation guides are found in VETNet -

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