



Australian Government

UEPOPS441 Operate and monitor system equipment

Release: 1

UEPOPS441 Operate and monitor system equipment

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, monitor and control High Voltage (H.V.) apparatus on the system via SCADA control.

Supervisory Control and Data Acquisition (SCADA) is a control system that uses computers, networked data communications and graphic interfaces. It uses other peripheral devices such as programmable logic controllers and discrete proportional integral derivative 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 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 system and/or network High Voltage (H.V.) apparatus through Supervisory Control and Data Acquisition (SCADA) is identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and legislative requirements
- 1.2 System and/or network requirements for operating, monitoring and controlling H.V. apparatus through SCADA are identified from appropriate personnel and documentation, in accordance with workplace procedures
- 1.3 System and/or network and associated H.V. apparatus and SCADA equipment operational prerequisites are identified and established, in accordance with workplace and manufacturers' procedures
- 1.4 Sequence for recommissioning of system and/or network H.V. apparatus and equipment through SCADA is identified and determined, in accordance with workplace procedures

2 Operate system/network equipment

- 2.1 System and/or network equipment and SCADA programs are operated, in accordance with workplace procedures
- 2.2 Load shedding requirements are identified, selected and monitored, in accordance with workplace procedures, during equipment operations to ensure system integrity
- 2.3 System and/or network operations are completed in consultation with appropriate personnel

3 Monitor system/network equipment

- 3.1 Voltage and current requirements are assessed, evaluated and controlled to maintain system/network equipment integrity and stability, in accordance with workplace procedures
- 3.2 System and/or network equipment is monitored for normal operations or to detect deviations, in accordance

- with workplace procedures
- 3.3** Corrective actions to rectify system and/or network abnormalities are taken, in accordance with workplace procedures
 - 3.4** Appropriate personnel are notified when system and/or network equipment defects or abnormal operating conditions are detected, in accordance with workplace procedures
- 4 Analyse system/network 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, in accordance with workplace procedures, to evaluate nature and cause of fault conditions
 - 4.3** Communication is established with key stakeholders, in accordance with workplace procedures, to identify nature and source of equipment system fault or failure
 - 4.4** Corrective action is taken, in accordance with workplace procedures
 - 4.5** Network and/or system integrity and personnel safety are maintained, in accordance with workplace procedures, and in consultation with appropriate personnel technical and operational documentation including contingency plans
- 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS441B 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 UEPOPS441 Operate and monitor system equipment

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 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 legislation, industry standards, codes of practice and regulations
- interpreting manufacturers' specifications and 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)
- 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, performance criteria and range of conditions and includes knowledge of:

- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications
- operation of Supervisory Control and Data Acquisition (SCADA)
- system equipment including its location, operating parameters and 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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