



Australian Government

UEPOPS428 Develop H.V. switching programs

Release: 1

UEPOPS428 Develop H.V. switching programs

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 develop High Voltage (H.V.) switching programs where multiple sources of supply must be considered and managed.

Switching can be set up to provide power to critical circuits, or to entire electrical subpanels, or to allow loads in large backup generator installations to be smoothly transferred from the utility to synchronised generators and back again.

Competency in this unit requires the ability to interpret requirements, research switching programmes, draft switching programs and validate switching programs. 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 Interpret requirements

- 1.1 Notification of switching program requirement is confirmed and assessed, in accordance with workplace procedures
- 1.2 Area of planned outage is identified in consultation with appropriate personnel and use of power generation system diagrams, drawings and maps
- 1.3 Work details are interpreted from outage request and draft switching program, in accordance with workplace procedures

2 Research switching programme

- 2.1 Implications of switching program on the power generation system are identified and recognised, in accordance with workplace procedures
- 2.2 Types and function of switchgear to be operated are identified, in accordance with workplace procedures and their suitability for operation under forecast system conditions during scheduled outage is assessed
- 2.3 System loadings, limitations and alternate supply route capabilities are evaluated, in accordance with workplace procedures to ensure system integrity
- 2.4 Consultation with appropriate personnel affected by the switching programme is undertaken, in accordance with workplace procedures
- 2.5 Location of isolation points are identified, in accordance with workplace procedures, to ensure shortest route when determining sequence of switching steps
- 2.6 Safe working clearances are identified and maintained, in accordance with workplace procedures, and legislative requirements
- 2.7 High Voltage (H.V.), Low Voltage (L.V.) and control circuitry is examined, in accordance with workplace procedures to ensure no back-feed is possible

3 Draft switching program

- 3.1 Switching program draft is documented, in accordance with workplace procedures, stating location, apparatus

and its' identification and the operation to be conducted

3.2 Permit to work procedures are implemented, if required, in accordance with workplace procedures

3.3 Switching program is planned and implemented, in accordance with workplace procedures

3.4 Switching program is checked for omissions, in accordance with workplace procedures

3.5 All documentation supporting the switching program is completed, in accordance with workplace procedures

4 Validate switching program

4.1 Switching program is forwarded to appropriate personnel for verification, in accordance with workplace procedures

4.2 Documentation is recorded, 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 UEPOPS428B Develop H.V. switching programs.

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 UEPOPS428 Develop H.V. switching programs

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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:

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - risk control measures
 - safe working practices
 - site emergency procedures
- communicating with personnel
- documenting and reporting switching programmes
- drafting switching program
- identifying power generation plant status
- implementing legislation, industry standards, codes of practice and regulations
- interpreting switching program requirements
- researching switching programme using data analysis techniques and tools
- utilising manufactures' specifications and manuals
- validating switching program
- working with permit to work system

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:

- draft switching programme
- isolations
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- permit to work system
- power generation plant and equipment, its location and operating parameters
- power generation plant status

- switch programmes
- switchgear types and characteristics
- typical arrangements of power production plant
- validation of switching programs
- WHS/OHS legislated requirements including:
 - site 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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