



**Australian Government**

# **UEPOPS103 Operate and monitor hydro unit control and protection systems**

**Release: 1**

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## **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, inspect and monitor a hydro unit control and protection system.

Hydro unit controls and protection systems provide operators with the facilities to control and supervise plant and equipment. Hydro unit control and protection systems help to ensure efficiency in critical applications such as turbine control, energy management and equipment protection.

Competency in this unit requires the ability to plan work, carry out operation of hydro unit control and protection system, test hydro unit control and protection system operation, analyse hydro unit control and protection system faults, inspect and monitor hydro unit control and protection system, and complete all documentation. Individuals will, in general, work under supervision, as an operator in a power generation facility.

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**

### **PERFORMANCE CRITERIA**

Elements describe the essential outcomes.

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

## **1 Plan and prepare work**

- 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 monitored
- 1.2** Work requirements are identified from relevant personnel and documentation in accordance with workplace procedures
- 1.3** Hydro unit control and protection system run-up and loading schedule are ascertained from relevant documentation in accordance with workplace procedures
- 1.4** Inspection, preoperational tests and field preparation for hydro unit control and protection system service are carried out in accordance with manufacturers' recommendations and specifications, and workplace procedures
- 1.5** Hydro unit control and protection system operational prerequisites are established in accordance with manufacturers' recommendations and specifications, and workplace procedures
- 1.6** Sequence for recommissioning of hydro unit control and protection system is determined in accordance with workplace procedures

## **2 Operate hydro control and protection system**

- 2.1** Hydro unit control and protection system is adjusted to achieve operating requirements in accordance with workplace procedures
- 2.2** Hydro unit control and protection system is operated within limits of design in accordance with workplace procedures
- 2.3** Hydro unit control and protection system is monitored and observed to detect deviations from required operating conditions in accordance with workplace procedures
- 2.4** Corrective actions are taken to rectify hydro unit control and protection system abnormalities in accordance with manufacturers' recommendations and specifications, and

		workplace procedures
<b>3 Test hydro unit control and protection system operation</b>	<b>3.1</b>	Operational tests are performed in accordance with workplace procedures
	<b>3.2</b>	Hydro unit control and protection system is observed for operational response in accordance with workplace procedures
<b>4 Analyse hydro unit control and protection system faults</b>	<b>4.1</b>	Cause of abnormal hydro unit control and protection system operating conditions are identified by analysing technical and operational information in accordance with workplace procedures
	<b>4.2</b>	Actions to rectify hydro unit control and protection system faults are determined in accordance with workplace procedures
<b>5 Monitor and inspect hydro unit control and protection system</b>	<b>5.1</b>	Hydro unit control and protection system to be monitored and inspected is physically identified in accordance with workplace procedures
	<b>5.2</b>	Hydro unit control and protection system is monitored and inspected for normal operation and to detect deviations in accordance with workplace procedures
<b>6 Complete documentation</b>	<b>6.1</b>	Hydro unit control and protection system plant problems, movements and status are reported in accordance with workplace procedures
	<b>6.2</b>	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 UEPOPS446 Operate and monitor hydro unit control and protection systems.

## Links

Companion Volume implementation guides are found in VETNet -

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