



**Australian Government**

# **UEPOPS335 Operate a hydro generator synchronous condenser pump unit**

**Release: 1**

# UEPOPS335 Operate a hydro generator synchronous condenser pump unit

## 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 start up, maintain a steady state of running and then shutdown a hydro unit operating either as a generator, synchronous condenser or pump.

Using synchronous condenser operations in hydro generation facilities can improve the quality of electric power being supplied, and it assists in stabilising the network during faults.

Competency in this unit requires the ability to plan and prepare work and to operate, test, analyse and report on hydro generator synchronous condenser plant. 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

### 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 Safety issues are identified in accordance with Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, industry standards and workplace procedures
- 1.2 Work, hydro generator synchronous condenser plant and type of start requirements are identified from appropriate personnel and documentation, in accordance with workplace procedures
- 1.3 Turbine running up and loading schedule are ascertained from relevant documentation, in accordance with workplace procedures
- 1.4 Hydro generator synchronous condenser plant inspection, preoperational tests and field preparation for service are carried out, in accordance with manufacturers' recommendations and workplace procedures
- 1.5 Hydro generator synchronous condenser plant operational prerequisites are established, in accordance with manufacturers' recommendations and workplace procedures
- 1.6 Sequence for recommissioning of hydro generator synchronous condenser plant is determined, in accordance with workplace procedures

#### 2 Operate hydro generator synchronous condenser plant

- 2.1 Hydro generator synchronous condenser plant is operated, in accordance with workplace procedures and manufacturers' recommendations
- 2.2 Hydro generator synchronous condenser plant is monitored, in accordance with workplace procedures, to detect deviations from normal operating conditions
- 2.3 Corrective actions are taken to rectify abnormalities, in accordance with manufacturers' recommendations and workplace procedures

#### 3 Test hydro generator synchronous condenser

- 3.1 Tests are performed on hydro generator synchronous condenser plant, in accordance with workplace

<b>plant operation</b>		procedures
	<b>3.2</b>	Corrective action is taken when response does not meet with documentation, hydro generator synchronous condenser plant integrity or personnel safety requirements
	<b>3.3</b>	Hydro generator synchronous condenser plant is returned to required operational status upon completion of testing, in accordance with workplace procedures
<b>4 Analyse hydro generator plant faults</b>	<b>4.1</b>	Cause of abnormal hydro generator synchronous condenser plant operating conditions are identified by analysing technical and operational information, in accordance with workplace procedures
	<b>4.2</b>	Hydro generator synchronous condenser plant integrity and personnel safety is maintained, in accordance with workplace procedures, through consultation with appropriate personnel and technical and operational documentation
	<b>4.3</b>	Appropriate personnel are notified when defects are detected, in accordance with workplace procedures
<b>5 Complete documentation</b>	<b>5.1</b>	Plant problems, movements and status are reported, in accordance with workplace procedures
	<b>5.2</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 Companion Volume Implementation Guide.

## Unit Mapping Information

This unit replaces and is equivalent to UEPOPS335B Operate a hydro generator synchronous condenser pump unit.

## Links

Companion Volume implementation guides are found in VETNet -

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