



**Australian Government**

# **UEPOPS072 Operate and monitor a hydro turbine**

**Release: 1**

# UEPOPS072 Operate and monitor a hydro turbine

## 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 in-service hydro turbines. Turbines are a basic component in most methods of generating electricity in hydro generation power facilities.

Competency in this unit requires the ability to plan work, operate hydro turbine plant, test hydro turbine plant, analyse hydro turbine plant faults, monitor and inspect hydro turbine plant 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 prerequisites

## Competency Field

Operations

## Unit Sector

Electricity generation

## Elements and Performance Criteria

### ELEMENTS

Elements describe the essential outcomes.

#### 1 Plan and prepare work

### PERFORMANCE CRITERIA

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

**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 turbine run up and loading schedule are confirmed from relevant documentation in accordance with workplace procedures
  - 1.4** Inspection, preoperational tests and field preparations for hydro turbine plant service are carried out in accordance with manufacturers' recommendations and specifications, and workplace procedures
  - 1.5** Hydro turbine plant operational prerequisites are established in accordance with manufacturers' recommendations and specifications, and workplace procedures
  - 1.6** Sequence for recommissioning of hydro turbine plant is determined in accordance with workplace procedures
- 2 Operate hydro turbine plant**
- 2.1** Output is adjusted to achieve required hydro turbine operating conditions and demand in accordance with manufacturers' recommendations and specifications, and workplace procedures
  - 2.2** Hydro turbine plant is operated within limits of design in accordance with workplace procedures
  - 2.3** Hydro turbine plant 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 turbine abnormalities in accordance with manufacturers' recommendations and specifications, and workplace procedures
- 3 Test hydro turbine plant operation**
- 3.1** Operational tests are performed in accordance with workplace procedures
  - 3.2** Hydro turbine plant is observed for correct operational response in accordance with workplace procedures
  - 3.3** Hydro turbine plant is returned to required safe operational status upon completion of testing in

- accordance with workplace procedures
- 4 Analyse hydro turbine plant faults**
- 4.1** Cause of abnormal hydro turbine plant operating conditions are identified by analysing technical and operational information in accordance with workplace procedures
- 4.2** Actions necessary to rectify faults are correctly determined in accordance with workplace procedures
- 4.3** Hydro turbine plant integrity and personnel safety is maintained in consultation with relevant personnel, technical and operational documentation in accordance with workplace procedures
- 5 Monitor and inspect hydro turbine plant**
- 5.1** Hydro turbine plant is monitored and inspected for normal operation and to detect deviations in accordance with workplace procedures
- 5.2** Relevant personnel are notified when defects are detected in accordance with workplace procedures
- 6 Complete documentation**
- 6.1** Hydro turbine plant problems, movements and status are reported in accordance with workplace procedures
- 6.2** 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 UEPOPS360 Operate and monitor a hydro turbine.

## Links

Companion Volume implementation guides are found in VETNet -

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