



**Australian Government**

# **UEPOPS340 Operate and monitor a steam turbine**

**Release: 1**

# UEPOPS340 Operate and monitor a steam turbine

## 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 and monitor an in-service steam turbine.

A steam turbine extracts thermal energy from pressurised steam and is particularly suited to driving an electrical generator as the high pressure steam is used to turn electricity generators at elevated speed.

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

### 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 related to operating and monitoring steam turbine plant are identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and legislative requirements

**1.2** Work requirements are identified, in accordance with workplace procedures, from appropriate personnel and documentation

**1.3** Preoperational checks are carried out on steam turbine plant, in accordance with workplace procedures, manufacturers' recommendations and site requirements

#### 2 Operate steam turbine plant

**2.1** Steam turbine output is adjusted to meet demand, in accordance with workplace procedures

**2.2** Steam turbine plant is operated, in accordance with workplace procedures and manufacturers' operating recommendation

**2.3** Steam turbine plant is monitored and observed, in accordance with workplace procedures, to detect deviations from normal operating conditions

**2.4** Corrective actions are taken to rectify steam turbine plant abnormalities, in accordance with workplace procedures and manufacturers' recommendations

#### 3 Test steam turbine plant operation

**3.1** Operational tests are performed, in accordance with workplace procedures

**3.2** Steam turbine plant is observed for correct operational response, in accordance with workplace procedures

**3.3** Corrective action is taken, in accordance with workplace procedures, when response does not meet with documentation, steam turbine plant integrity or personnel safety requirements

**3.4** Steam turbine plant is returned to required operational status upon completion of test, in accordance with

- workplace procedures
- |                                       |            |   |
|---------------------------------------|------------|---|
| <b>4 Analyse steam turbine faults</b> | <b>4.1</b> | Causes of abnormal steam turbine plant operating conditions are identified, in accordance with workplace procedures, and by analysing technical and operational information                           |
|                                       | <b>4.2</b> | Corrective action is taken, in accordance with workplace procedures   |
|                                       | <b>4.3</b> | Steam turbine plant integrity and personnel safety is maintained, in accordance with workplace procedures, and in consultation with appropriate personnel and technical and operational documentation |
|                                       | <b>4.4</b> | Appropriate personnel are notified when defects are detected, in accordance with workplace procedures   |
| <b>5 Monitor steam turbine plant</b>  | <b>5.1</b> | Steam turbine plant to be monitored is identified, in accordance with workplace procedures  |
|                                       | <b>5.2</b> | Steam turbine plant is monitored for normal operation or to detect deviations, in accordance with workplace procedures  |
|                                       | <b>5.3</b> | Appropriate personnel are notified when defects are detected, in accordance with workplace procedures   |
| <b>6 Complete documentation</b>       | <b>6.1</b> | Steam turbine plant problems, movements and status is 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 Companion Volume Implementation Guide.

## Unit Mapping Information

This unit replaces and is equivalent to UEPOPS340B Operate and monitor a steam turbine.

## Links

Companion Volume implementation guides are found in VETNet -

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