



Australian Government

UEPOPS411 Run up a steam turbine

Release: 1

UEPOPS411 Run up 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 conduct a steam turbine run up to a stable operating condition.

Run up of a steam turbine will involve the operator making a sequence of checks prior to and during start up. This ensures that loading the turbine is completed in a safe and consistent manner.

Competency in this unit requires the ability to plan and prepare steam turbine run up work, conduct steam turbine run up, test steam turbine and complete 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

Elements describe the essential outcomes.

1 Plan and prepare steam turbine work

2 Take action to commence run up steam turbine

3 Test steam turbine plant operation

PERFORMANCE CRITERIA

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

- 1.1** Safety issues are identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and site requirements
- 1.2** Work requirements are identified from appropriate personnel and documentation, in accordance with workplace procedures
- 1.3** Preoperational checks are carried out on steam turbine plant, in accordance with manufacturers' recommendations and workplace procedures
- 1.4** Turbine running up and loading schedule are ascertained from relevant documentation, in accordance with workplace procedures and site requirements
- 2.1** Steam turbine and generator auxiliary systems are made available to support steam turbine run up, in accordance with manufacturers' specifications and workplace procedures
- 2.2** Steam turbine plant is monitored to detect deviations from normal operating conditions
- 2.3** Corrective actions are taken to rectify steam turbine abnormalities, in accordance with manufacturers' specifications and workplace procedures
- 2.4** Steam generator is synchronised and connected to electrical system, in accordance with workplace procedures and manufacturers' recommendations
- 3.1** Tests are performed, in accordance with workplace procedures
- 3.2** Power generation system and steam turbine plant are observed for correct operational response, in accordance with workplace procedures
- 3.3** Corrective action is taken when response does not meet documentation, steam turbine plant integrity or

- personnel safety requirements
- 3.4** Steam turbine plant is returned to required operational status upon completion of testing, in accordance with workplace procedures
- 4 Analyse system faults**
- 4.1** Causes of abnormal steam turbine plant operating conditions are identified, in accordance with workplace procedures, by analysing technical and operational information
- 4.2** Corrective action is taken, in accordance with workplace procedures
- 4.3** Steam turbine plant integrity and personnel safety is maintained, in accordance with workplace procedures, through consultation with appropriate personnel and technical and operational documentation
- 4.4** Appropriate personnel are notified, in accordance with workplace procedures, when defects are detected
- 5 Complete documentation**
- 5.1** Steam turbine plant problems, movements and status are reported, in accordance with workplace procedures
- 5.2** 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS411B Run up 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>

Assessment Requirements for UEPOPS411 Run up a steam turbine

Modification History

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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) legislated requirements including:
 - emergency procedures
 - risk control measures
 - safe working procedures
- communicating with personnel
- identifying and responding to abnormal steam turbine plant operating conditions
- monitoring and operating steam turbine plant and equipment
- organise resources
- planning and preparing steam turbine operations work
- recognising steam turbine plant status
- recording procedures to complete documentation
- starting, running up and operating steam turbine and associated plant and equipment
- testing gas turbine plant operation using diagnostic and data analysis techniques and tools to determine faults
- 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 include knowledge of:

- permit to work system
- steam turbine operating procedures and processes
- system components and their interaction with other plant and equipment including steam turbine operations
- turbine supervision and control systems
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) legislation

including:

- emergency procedures
- risk control measures
- safe working procedures
- workplace policies and procedures
- workplace documentation manufacturers specifications and manuals

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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