



Australian Government

UEPOPS134 Shut down a gas turbine

Release: 1

UEPOPS134 Shut down a gas 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 shut down a gas turbine unit to a standby state.

Performing shutdown procedures for a gas turbine unit will require the implementation of power generation facility procedures and provisions, including manufacturers' recommendations and specifications, and worksite specific requirements.

Competency in this unit requires the ability to plan and prepare gas turbine shutdown, shut down a gas turbine, test gas turbine plant operation, analyse power generation system faults and complete 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 prerequisite units

Competency Field

Operations

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

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| 1 Plan and prepare gas turbine shutdown work | <ul style="list-style-type: none">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 monitored1.2 Work requirements are identified from relevant personnel and documentation in accordance with workplace procedures1.3 Operational checks are carried out on gas turbine plant in accordance with manufacturers' recommendations and specifications, and workplace procedures1.4 Team and individual roles and responsibilities are identified and recorded in the shutdown plan in accordance with workplace procedures |
| 2 Conduct gas turbine shutdown | <ul style="list-style-type: none">2.1 Gas turbine is unloaded and shutdown in accordance with manufacturers' recommendations and specifications, and workplace procedures2.2 Gas turbine exhaust gas flow and power output are adjusted when gas turbine is a component of a combined unit to achieve required steam flow conditions in accordance with workplace procedures2.3 Gas turbine and associated power generation plant is placed in a safe condition in accordance with manufacturers' recommendations and specifications, and workplace procedures2.4 Gas turbine plant is operated within limits of design during gas turbine shutdown in accordance with workplace procedures2.5 Gas turbine plant is inspected and monitored to detect abnormal operating conditions during shutdown in accordance with workplace procedures2.6 Corrective actions are taken to rectify gas turbine plant operation abnormalities in accordance with manufacturers' recommendations and specifications, and workplace procedures |
| 3 Inspect and test gas turbine plant operation during shutdown | <ul style="list-style-type: none">3.1 Tests are performed on gas turbine plant in accordance with workplace procedures |

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| | 3.2 | Gas turbine system and plant is observed for operational response in accordance with workplace procedures |
| | 3.3 | Corrective action is taken when operation response is not in accordance with shutdown work plan, plant integrity and safety requirements in accordance with workplace procedures |
| | 3.4 | Gas turbine plant is returned to required operational status upon completion of testing in accordance with workplace procedures |
| 4 Analyse system faults during gas turbine shutdown | 4.1 | Causes of abnormal gas turbine plant operating conditions are identified by analysing technical and operational information in accordance with workplace procedures |
| | 4.2 | Gas turbine plant integrity and personnel safety is maintained and through consultation with relevant personnel and technical and operational documentation in accordance with workplace procedures |
| | 4.3 | Relevant personnel are notified when defects are detected in accordance with workplace procedures |
| 5 Complete documentation | 5.1 | Gas 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 UEP Electricity Supply Industry – Generation Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS408 Shut down a gas 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 UEPOPS134 Shut down a gas turbine

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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 and performance criteria on at least two separate occasions and include:

- analysing technical and operational information
- applying work health and safety (WHS)/occupational health and safety (OHS) legislated requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with personnel
- completing documentation using recording procedures
- identifying gas turbine plant status
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- inspecting and testing gas turbine plant operation using diagnostic and data analysis techniques and tools to determine faults
- interpreting manuals
- monitoring and operating gas turbine plant and equipment
- preparing gas turbine shutdown plan
- responding to abnormal gas turbine plant operating conditions
- shutting down a gas turbine plant, including planning gas turbine shutdown and organising resources
- using permit to work system
- working with gas turbine plant and equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- fault-finding techniques
- gas turbine operating parameters

- manuals
- permit to work system
- principles and techniques of operation of a gas turbine and associated plant and equipment
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- safety precautions associated with gas turbine shutdown
- sequence of gas turbine operations
- shutdown procedures
- technical and operational analysing techniques
- WHS/ OHS requirements, including:
 - emergency procedures
 - safe working practices
 - risk control measures
- workplace documentation
- workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

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.

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 (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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