



Australian Government

UEPOPS140 Start up a boiler unit

Release: 1

UEPOPS140 Start up a boiler unit

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 establish combustion in a boiler through to a stage at which combustion support energy is no longer necessary.

A boiler is a closed vessel in which water, under pressure, is converted into steam. Combustion is an important key to boiler operations; it occurs when oxygen combines with an element or compound to release heat.

Competency in this unit requires the ability to plan and prepare boiler unit start-up, conduct boiler unit - start-up, test and analyse boiler unit 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.

- | | |
|---|---|
| 1 Plan and prepare boiler unit start-up 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 Preoperational checks are carried out on boiler unit plant in accordance with manufacturers' recommendations and specifications and workplace procedures |
| 2 Conduct boiler unit start-up | <ul style="list-style-type: none">2.1 Boiler auxiliary systems are started up to support boiler unit start up, in accordance with manufacturers' recommendations and specifications, and workplace procedures2.2 Pre-light up conditions for boiler unit are established in accordance with workplace procedures2.3 Combustion is established with fuel consumption kept at minimum levels in accordance with manufacturers' recommendations and specifications, and workplace procedures2.4 Fuel, air and feedwater flows are adjusted to achieve required steam conditions and demand in accordance with workplace procedures2.5 Boiler unit plant is operated within limits of design in accordance with workplace procedures2.6 Boiler unit plant is monitored to detect deviations from required operating conditions in accordance with workplace procedures2.7 Corrective actions are taken to rectify boiler unit abnormalities in accordance with manufacturers' recommendations and specifications, and workplace procedures |
| 3 Test boiler unit plant operation | <ul style="list-style-type: none">3.1 Tests are performed in accordance with workplace procedures3.2 Power generation system and boiler unit plant is observed for correct operational response in accordance |

		with workplace procedures
	3.3	Boiler unit plant is returned to required operational status upon completion of testing in accordance with workplace procedures
4 Analyse system faults during boiler unit start-up	4.1	Causes of abnormal boiler unit plant operating conditions are identified by analysing technical and operational information in accordance with workplace procedures
	4.2	Boiler unit plant integrity and personnel safety are maintained 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	Boiler unit 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 UEPOPS409 Start up a boiler unit.

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 UEPOPS140 Start up a boiler unit

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

- 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
- employing temperature and pressure raising techniques
- identifying boiler unit plant status
- interpreting manuals
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- monitoring and operating boiler unit plant and equipment
- organising resources
- planning and preparing boiler unit plant and equipment for start and run-up operations
- recognising and responding to abnormal boiler unit plant operating conditions
- reviewing fuel consumption during boiler unit start-up
- starting, running-up and operating boiler unit and associated plant and equipment
- testing boiler unit plant operation using diagnostic and data analysis techniques and tools to determine faults
- using recording procedures to complete documentation
- 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 and performance criteria and include knowledge of:

- arrangements of power production plant
- boiler system components and interaction with other plant and equipment
- boiler unit plant and equipment, location and operating parameters

- manuals
- permits
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- start-up procedures
- techniques of fuel combustion
- temperature and pressure raising requirements
- WHS/OHS requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- 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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