



Australian Government

UEPOPS409 Start up a boiler unit

Release: 1

UEPOPS409 Start up a boiler unit

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 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 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 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 boiler unit start up work

1.1 Safety issues are identified in accordance with Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and workplace procedures

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

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

2 Conduct boiler unit start up

2.1 Boiler auxiliary systems are started up to support boiler unit start up, in accordance with manufacturers' specifications and workplace procedures

2.2 Pre-light up conditions for boiler unit are established, in accordance with workplace procedures

2.3 Combustion is established with fuel consumption kept at minimum levels, in accordance with workplace procedures and manufacturers' recommendations

2.4 Fuel, air and feed water flows are adjusted, in accordance with workplace procedures, to achieve required steam conditions and demand

2.5 Boiler unit plant is operated within limits of its' design, in accordance with workplace procedures

2.6 Boiler unit plant is monitored, in accordance with workplace procedures, to detect deviations from required operating conditions

2.7 Corrective actions are taken to rectify boiler unit abnormalities, in accordance with manufacturers' recommendations and workplace procedures

3 Test boiler unit plant operation

3.1 Tests are performed, in accordance with workplace procedures

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| | 3.2 | Power generation system and boiler unit plant is observed, in accordance with workplace procedures, for correct operational response |
| | 3.3 | Corrective action is taken, in accordance with workplace procedures, when response does not meet documentation, plant integrity or personnel safety requirements |
| | 3.4 | 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, in accordance with workplace procedures, by analysing technical and operational information |
| | 4.2 | Corrective action is taken, in accordance with workplace procedures |
| | 4.3 | Boiler unit plant integrity and personnel safety is maintained, in accordance with workplace procedures and 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 | 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS409B 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 UEPOPS409 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, 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 practices
- communicating with personnel
- employing temperature and pressure raising techniques
- identifying boiler unit plant status
- implementing legislation, industry standards, codes of practice and regulations
- 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, performance criteria and range of conditions and includes knowledge of:

- boiler system components and interaction with other plant and equipment
- boiler unit plant and equipment, its location and operating parameters
- manufacturers' specifications and manuals
- permit to work system

- techniques of fuel combustion
- temperature and pressure raising requirements
- typical arrangements of power production plant
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations including:
 - emergency procedures
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

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.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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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