



Australian Government

PPMSTM210 Monitor and control boiler operation

Release: 2

PPMSTM210 Monitor and control boiler operation

Modification History

Release	Comments
Release 2	This version released with PPM Pulp and Paper Manufacturing Training Package Version 2.0.
Release 1	This version released with PPM Pulp and Paper Manufacturing Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to operate, monitor and maintain boilers, record and report operating data and handover to incoming operators.

The unit applies to production support operators who monitor and control boiler operation in a pulp or paper manufacturing facility. This typically involves working in a facility with complex integrated equipment and continuous operations.

No licensing, legislative or certification requirements apply to this unit at the time of publication. Where the boiler equipment falls under the category for which a High Risk Work Licence is required, this unit should not be used and the appropriate unit should be sought.

Pre-requisite Unit

Nil

Unit Sector

Steam generation (STM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Confirm operational status	1.1 Check production requirements at start of shift and plan to carry out daily work activities following workplace health and safety and standard operating procedures (SOP) 1.2 Confirm combustion processes are within operational

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	specifications by observation and inspection 1.3 Maintain process supplies to meet production requirements 1.4 Record boiler performance in operational log 1.5 Communicate operational status to relevant personnel 1.6 Select, fit, use and maintain personal protective equipment according to job requirements and task to be undertaken
2. Monitor and control boiler plant operation	2.1 Confirm operational status by inspection and routine observation 2.2 Test water quality and adjust chemical addition according to organisational procedures 2.3 Complete and record fuel efficiency calculations 2.4 Adjust boiler controls to maintain operation within specifications 2.5 Monitor and test pre-treatment systems for water 2.6 Monitor and maintain steam pressure and steam distribution systems to meet production requirements 2.7 Complete routine preventative maintenance in line with maintenance schedules
3. Record boiler performance and handover boiler operations	3.1. Record steam generation processes and data in operating log 3.2. Record and report maintenance requirements 3.3. Maintain operational boiler records in line with organisational procedures and statutory requirements 3.4. Brief incoming boiler operators on status of boiler operations and equipment in line with organisational procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Interpret workplace health and safety and SOP

Skill	Description
Writing	Complete accurate basic records for steam generation processes and maintenance requirements.
Numeracy	- Interpret basic numerical settings on instruments and gauges involving pressures, flows and temperatures - Complete routine calculations to measure ratios of boiler house chemicals and fuel efficiency - Monitor, assess and interpret steam generation data - Record basic numerical data for fuel efficiency and steam generation
Interact with others	Provide clear basic information about operational status of boiler
Get the work done	Use and assess sensory information (sight, sound, touch, smell, vibration, temperature) to adjust process to maximise safety and productivity

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
PPMSTM210 Monitor and control boiler operation Release 2	PPMSTM210 Monitor and control boiler operation Release 1	Performance criteria added, minor changes to knowledge evidence, minor change to licensing statement	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93>

Assessment Requirements for PPMSTM210 Monitor and control boiler operation

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has operated a boiler at least twice in line with required enterprise intervals and:

- completed the following types of tests during required operational periods:
 - low water level alarm
 - high water level alarm
 - low water level alarm lockout
 - hydrostatic
 - burner management system
 - safety valve
- completed routine maintenance on boiler plant
- completed records for boiler operation:
 - operating log
 - fuel efficiency records
 - records of steam generation processes and maintenance requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- organisational procedures relevant to workplace health and safety with particular emphasis on:
 - use of personal protective equipment (PPE)
 - equipment lock out and isolation procedures
 - handling chemicals and hazardous substances, including spill and disposal guidelines

- plant clearance requirements
- emergency procedures and responses
- job safety analysis documentation and processes
- plant permit systems and processes
- high risk load shifting licensing requirements where relevant
- major hazard facility requirements where relevant
- characteristics and dangers of steam
- boiler plant layout
- purpose, features and operation of these types of boilers and associated fuel types and delivery systems:
 - fire tube
 - water tube
- operating parameters and allowable variations for those boiler types
- operation and application of electronic and other control systems
- key features of equipment required to monitor and control boiler operations
- purpose of, and processes for sampling and testing plant and system operations
- methods used to maintain steam distribution systems
- boiler water treatment system and reasons for treatment
- data used to evaluate boiler performance including:
 - steam levels
 - pressure levels
 - generation levels
 - heat build-up
 - system overload information
 - test outcomes for water quality and chemicals
 - past performance records
- organisational procedures including:
 - standard operating procedures (SOP) specific to boiler operations
 - communication reporting lines
 - recording and reporting steam generation processes and maintenance requirements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace or a productive environment that accurately reflects performance in a workplace
- resources, equipment and materials:
 - a boiler which can be fire or water tube type
 - fully automated, semi-automated, manually operated plant and equipment required for boiler operation in a pulp or paper manufacturing facility

- maintenance tools and equipment and consumables for boiler maintenance
- PPE suitable for operating a boiler
- specifications:
 - maintenance schedules for boiler
 - template documents including operating log, fuel efficiency records, documents for recording steam generation processes and maintenance requirements
 - organisational workplace health and safety and SOP.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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