



Australian Government

PPMSTM401 Troubleshoot and rectify boiler plant systems

Release: 1

PPMSTM401 Troubleshoot and rectify boiler plant systems

Modification History

Release	Comments
Release 1	This version released with PPM Pulp and Paper Manufacturing Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to identify, diagnose, rectify and report faults in boiler plant systems.

The unit applies to senior operators and production specialists who troubleshoot and rectify system faults that occur in continuous boiler plant operations.

Licensing requirements apply to this unit where the boiler equipment falls under the category for which a high risk work licence is required. Users are advised to check with the relevant regulatory authority for current requirements.

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. Identify and diagnose causes of system faults	1.1 Prepare for boiler plant system rectification according to operational requirements and workplace health and safety and environmental procedures 1.2 Identify safety hazards and determine risk control measures with relevant personnel 1.3 Interpret abnormal plant conditions and machine alarms, and make physical inspection to determine fault type and location 1.4 Check for recent work undertaken on plant, and address

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	outstanding issues 1.5 Identify boiler type and locate cause and source of fault 1.6 Isolate faulty plant, if possible, and confirm with production and maintenance 1.7 Confirm diagnosis by access and reference to relevant historical data 1.8 Communicate diagnosis to relevant personnel
2. Rectify faults	2.1 Shut down and isolate equipment according to operating procedures 2.2 Repair or replace faulty equipment according to workplace health and safety and equipment specifications 2.3 Adjust process and systems to restore normal operations 2.4 Verify and communicate restoration to normal operations to relevant personnel
3. Record and report troubleshooting and rectification activities	3.1 Document troubleshooting process and responses to corrective actions according to workplace requirements 3.2 Document variations from standard specifications and boiler operating faults 3.3 Communicate relevant information to appropriate personnel

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 information from a range of documentation
Writing	Complete accurate detailed records and reports for system and product faults, diagnostic and corrective action processes using the required format
Oral communication	Provide comprehensive information about problems with equipment and products using clear language and industry

Skill	Description
	terminology • Provide clear, unambiguous information about return to normal operations to system operators and other personnel
Numeracy	• Interpret numerical settings on instruments, gauges and data recording equipment • Interpret system data • Record detailed numerical data for system • Use measuring equipment to measure and inform calculations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
PPMSTM401 Troubleshoot and rectify boiler plant systems	PPMSTM440 Troubleshoot and rectify boiler plant systems	Changes to elements, performance criteria, foundation skills, performance evidence and knowledge evidence Assessment conditions updated	Not equivalent

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 PPMSTM401 Troubleshoot and rectify boiler plant systems

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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 carried out troubleshooting and rectification activities for boiler plant systems on at least two occasions according to operational requirements, including for each occasion:

- selected and used appropriate troubleshooting methods to correct plant and equipment faults
- identified causes and effects of faults, and corrective action on associated processes
- identified and rectified faults in plant and equipment
- communicated effectively and worked safely with others when undertaking troubleshooting and rectification activities
- completed accurate records on troubleshooting and rectification activities and actions undertaken.

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:

- workplace and legislative health and safety requirements and risk measures relevant to operating, troubleshooting and rectifying boiler plant systems, including emergency procedures, handling chemical and hazardous substances, high risk load shifting, licensing requirements, plant clearance and permit systems
- relevant workplace and legislative environmental sustainability requirements and practices for boiler operations, including workplace biotechnological applications and processes considerations for troubleshooting and rectification activities
- troubleshooting methods that can be applied across boiler plant system faults
- types and implications of pre-operational checks
- manufacturer specifications and operating procedures for boiler plant and equipment, including shutdown and isolation procedures

- steam generation system, processes and associated services, including:
 - plant layout
 - theory of operation
 - causes and effects of adjustments made to steam generation plant and processes
 - relationships between steam generation system, processes and associated services
- use of materials and supplies for boiler plant systems
- use of boiler water treatment system and reasons for treatment
- use of electronic and other control systems, operation and application to make appropriate adjustments that control boiler plant operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - boiler plant and system
 - tools, equipment and materials used to troubleshoot and rectify boiler plant operations
 - electronic control systems that include digital control system, touch screens or robotics required for boiler plant operations
 - personal protective equipment required for troubleshooting boiler plants systems
 - proforma or recording system for recording diagnostic and corrective action processes
- specifications:
 - workplace and standard operating procedures relating to troubleshooting and rectifying boiler plants systems, including health and safety, environmental, risks and hazards identification, plant isolation and quality requirements
 - plant manufacturing operating manuals
- relationships:
 - relevant personnel for the purposes of communicating information.

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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