

**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.

PPMSTM320	Manage steam boiler startup
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to plan, prepare, manage and report on steam boiler startups, in the pulp and paper industry.</p> <p>This unit applies to production operators and technicians who manage steam boiler startups, in a pulp and paper manufacturing facility. This typically involves working in a facility with complex integrated equipment and continuous operations.</p> <p>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.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Pulp and Paper Manufacturing (PPM)

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. Conduct pre-operational safety checks	1.1 Confirm plant status and boiler types through inspections, observation and other information 1.2 Plan and carry out boiler startup activities according to productivity requirements, environmental sustainability requirements, workplace health and safety and standard operating procedures including use of personal protective equipment and housekeeping requirements 1.3 Identify and report potential work area hazards and implement control measures 1.4 Establish work and output requirements 1.5 Conduct pre operational and safety checks on equipment 1.6 Remove isolations 1.7 Confirm availability of process supplies
2. Conduct startup procedures	2.1 Establish pre-light conditions 2.2 Start boiler and bring on-line 2.3 Monitor boiler condition during startup to detect abnormal conditions 2.4 Observe system and plant for correct operational response 2.5 Detect deviations from required operating conditions and rectify using corrective action
3. Record and report startup activities	3.1 Document responses to corrective actions 3.2 Record and report on startup information according to organisational procedures

<b>Foundation Skills</b>	
<i>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.</i>	
<b>Skill</b>	<b>Description</b>
Reading	<ul style="list-style-type: none"> <li>Read and interpret documentation, procedure manuals and customer orders relevant to steam boilers</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Record startup activities accurately and legibly, using correct technical vocabulary</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Interpret instruments, gauges and data recording equipment</li> <li>Use measuring equipment</li> </ul>
Navigate the world of work	<ul style="list-style-type: none"> <li>Use electronic and other control systems to control equipment and processes</li> <li>Access, navigate and enter computer based information</li> </ul>
Interact with others	<ul style="list-style-type: none"> <li>Select and use appropriate spoken communication strategies with work colleagues and other personnel on site to manage steam boiler startup</li> </ul>
Get the work done	<ul style="list-style-type: none"> <li>Maintain situational awareness in the work area</li> <li>Analyse and use sensory information to adjust process to maintain and coordinate safety, quality and productivity</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
PPMSTM320 Manage steam boiler startup Release 2	PPMSTM320 Manage steam boiler startup Release 1	Minor changes to performance criteria and knowledge evidence, minor change to licensing statement	Equivalent unit

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

<b>TITLE</b>	<b>Assessment requirements for PPMSTM320 Manage steam boiler startup</b>
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has:</p> <ul style="list-style-type: none"> <li>• managed a steam boiler startup, at least twice in line with required enterprise intervals</li> <li>• checked, set up and started the boiler within an appropriate time frame</li> <li>• implemented isolation and access procedures</li> <li>• identified and actioned problems</li> <li>• identified and monitored process control points</li> <li>• maintained a clean and hazard free work area</li> <li>• recorded and reported on operational data</li> <li>• communicated effectively, through written and verbal means, and working safely with others, in the work area.</li> </ul>	
<b>Knowledge Evidence</b>	
<p>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:</p> <ul style="list-style-type: none"> <li>• organisational procedures relevant to workplace health and safety with particular emphasis on: <ul style="list-style-type: none"> <li>• use of personal protective equipment (PPE)</li> <li>• equipment lock out and isolation procedures</li> <li>• handling chemicals and hazardous substances, including spill and disposal guidelines</li> <li>• plant clearance requirements</li> <li>• emergency procedures and responses</li> <li>• job safety analysis documentation and processes</li> <li>• plant permit systems and processes</li> <li>• high risk load shifting licensing requirements where relevant</li> <li>• major hazard facility requirements where relevant</li> </ul> </li> <li>• implications of pre operational checks including low water level alarm, high water level alarm, low water level, alarm lockout, hydrostatic test, burner management system and safety valve test</li> <li>• documentation and procedures relevant to steam boiler startups, in the pulp and paper industry including: <ul style="list-style-type: none"> <li>• appropriate boiler/pressure vessel operator certification</li> <li>• confined space standards and regulations</li> <li>• productivity requirements</li> <li>• quality procedures</li> <li>• standard operating procedures (SOP)</li> <li>• environmental sustainability requirements and practices</li> <li>• machinery and plant manufacturing operating manuals</li> <li>• enterprise policies and procedures</li> <li>• job sheets and operator's log</li> <li>• manufacturer's specifications and maintenance documentation</li> <li>• safety data sheets</li> <li>• incidents reports</li> </ul> </li> <li>• the use of materials and supplies for boiler startups including chemicals, coal, oil, gas, additives, air, water, wood waste, steam recovery process products and power</li> <li>• maintenance systems including operator level maintenance as per site agreements, operator maintenance schedules, maintenance suppliers and pro-active maintenance strategies</li> <li>• processes, layout and associated services relevant to steam generation plant and sufficient to carry out startup activities within level of responsibility</li> <li>• boiler water treatment system and reasons for treatment</li> <li>• electronic and other control systems, operation and application to make appropriate adjustments that control steam generation systems.</li> </ul>	

<b>Assessment Conditions</b>	
<p>Assessment of skills must take place under the following conditions:</p> <ul style="list-style-type: none"><li>• physical conditions:<ul style="list-style-type: none"><li>• a workplace or a productive environment that accurately reflects performance in a workplace</li></ul></li><li>• resources, equipment and materials:<ul style="list-style-type: none"><li>• access to the full range of equipment required to start up steam boiler operations in a pulp or paper manufacturing facility</li><li>• electronic control systems which includes digital control system, touch screens or robotics required for steam boiler startup</li><li>• PPE suitable for managing a steam boiler startup</li></ul></li><li>• specifications:<ul style="list-style-type: none"><li>• applicable workplace health and safety and isolation work place procedures, environmental guidelines and safe working requirements, risks and hazard identification and workplace housekeeping requirements</li><li>• sample workplace documentation, procedures and reports including SOP, quality procedures, environmental sustainability requirements/practices, plant manufacturing operating manuals, enterprise policies and procedures, oil or chemical spills and disposal guidelines, plant isolation documentation, safe work documentation.</li></ul></li></ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93</a>