

**Modification history**

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

PPMWAS3XX	Operate water systems
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to prepare for, start up, monitor, and shut down water systems used for pulp or paper manufacturing operations.</p> <p>The unit applies to production operators operate water systems in a pulp or paper manufacturing facility and respond to contingencies that occur . This working with complex integrated equipment and continuous operations.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Water service (WAS)

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. Prepare to operate water systems	1.1 Identify production requirements to plan system operations and processes 1.2 Identify work health and safety hazards, assess risks and determine control measures 1.3 Identify process control points according to production specifications 1.4 Confirm availability of materials and supplies for water system 1.5 Select, fit and use personal protective equipment according to job requirements and task to be undertaken 1.6 Communicate production requirements and specifications, work health and safety and environmental requirements and operating procedures to relevant personnel 1.7 Select, fit, use and maintain personal protective equipment according to job requirements and task to be undertaken 1.8 Communicate production requirements and specifications, work health and safety and environmental requirements and operating procedures to relevant personnel
2. Inspect and start up water systems	2.1 Inspect and conduct pre-occupational safety checks on water systems 2.2 Remove isolations according to operating procedures 2.3 Start up water system according to work health and safety and operating processes 2.4 Observe the water system to confirm start up operational response 2.5 Detect startup variation conditions and rectify common faults or refer complex faults to specialist technician
3. Monitor and control water systems	3.1 Confirm system functions through routine checks 3.2 Take water samples and test to maintain quality according to operational parameters 3.3 Identify variations from operational parameters 3.4 Restore water system to standard operational parameters 3.5 Conduct operator level maintenance according to operating procedures
4. Conduct water system shutdown	4.1 Coordinate and communicate planned shutdown of water system to relevant personnel 4.2 Manage system shutdown according to productivity, work health and safety and environmental requirements and operating procedures 4.3 Implement isolation requirements according to operating and housekeeping procedures

<b>Elements</b>	<b>Performance Criteria</b>
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
5. Respond to unplanned shutdown	5.1 Respond to unplanned faults and stoppages according to operating, emergency and workplace health and safety procedures 5.2 Complete shutdown and isolation according to operating procedures 5.3 Locate and rectify cause of unplanned shutdown within area of responsibility 5.4 Communicate shutdown information to relevant personnel
6. Record and report water systems information	6.1 Record water systems information according to workplace requirements 6.2 Report problems and related action to relevant personnel

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<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>Interpret information from workplace procedures and documentation</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Complete records accurately and legibly using clear language and industry terminology</li> </ul>
Oral communication	<ul style="list-style-type: none"> <li>Provide information about start up and shut down operations, problems or variations with production, quality and system using clear language and industry terminology</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Interpret numerical settings on instruments, gauges and data recording equipment</li> <li>Record numerical data for system and operational performance</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>
PPMWAS3XX Operate water systems	PPMWAS210 Operate water systems	Changes to elements, performance criteria, foundation skills, performance and knowledge evidence. Assessment conditions updated.	Equivalent

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

<b>TITLE</b>	<b>Assessment requirements for PPMWAS3XX Operate water systems</b>
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has planned for, coordinated, and safely started up and shut a water system for at least two operational intervals, including for each operational interval:</p> <ul style="list-style-type: none"> <li>• determined and monitored process control points</li> <li>• monitored, assessed causes and adjusted system to rectify variations from specifications and unplanned shutdown</li> <li>• used and interpreted electronic control systems during operation</li> <li>• recorded and reported accurate operational data</li> <li>• conducted operator level maintenance on system</li> <li>• communicated effectively and worked safely with others when operating water system.</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>• workplace and legislative health and safety requirements relevant to operating water systems, including emergency procedures, handling chemical and hazardous substances, high risk load shifting, licensing requirements, plant clearance and permit systems</li> <li>• relevant workplace and legislative environmental sustainability requirements and practices for operating water systems, including workplace biotechnological applications and processes</li> <li>• methods used to identify and manage hazards and risks that apply to operating water systems</li> <li>• types of water systems and processes, plant layout and associated services relevant to carrying out startup, and shut down activities</li> <li>• standard operating procedures specific to water systems</li> <li>• types of and impact of different types of water sources including raw, mains or recycled water on water systems</li> <li>• purpose of, standards and processes for sampling and testing water quality, plant and system operations, and process monitoring</li> <li>• purpose of, and requirements of operator level maintenance schedules</li> <li>• methods used to monitor water system operations against specified system parameters</li> <li>• effect of process adjustments on product quality and productivity during operation</li> <li>• application of electronic and other control systems used to operate, control and make appropriate adjustments to water systems</li> <li>• causes and responses used for unplanned shutdowns of water systems</li> <li>• procedures for communicating, recording and reporting for system operation, production outcomes and equipment faults.</li> </ul>	
<b>Assessment Conditions</b>	
<p>Assessment of the skills in this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions: <ul style="list-style-type: none"> <li>• skills must be demonstrated in a paper manufacturing facility or an environment that accurately represents workplace conditions</li> </ul> </li> <li>• resources, equipment and materials: <ul style="list-style-type: none"> <li>• water system, equipment and consumables required to operate water system</li> <li>• test and diagnostic equipment</li> <li>• personal protective equipment required for operating water systems</li> <li>• proforma or recording system for recording system and production data and information</li> </ul> </li> <li>• specifications: <ul style="list-style-type: none"> <li>• workplace and standard operating procedures relating to water system operations including health and safety, risks and hazards identification, plant isolation, quality, housekeeping and environmental requirements</li> </ul> </li> </ul>	

<b>Assessment Conditions</b>	
<ul style="list-style-type: none"><li>• maintenance schedule for water system</li><li>• relationships:<ul style="list-style-type: none"><li>• relevant personnel for the purposes of communicating information.</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>	
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