

Modification history

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

PPMWAS340	Troubleshoot and rectify water systems
Application	<p>This unit of competency describes the skills and knowledge required to identify, diagnose, rectify and report on system and water quality faults in water systems used in the pulp and paper manufacturing industry.</p> <p>The unit applies to senior operators and production specialists who work in the pulp and paper manufacturing industry and troubleshoot and rectify complex water systems used in continuous operations.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	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. Identify and analyse causes of system and quality faults	1.1 Prepare for rectification of water system according to operational requirements and work health and safety and environmental procedures 1.2 Identify safety hazards and determine risk control measures with relevant personnel 1.3 Conduct visual checks on water systems and interpret warning devices to determine fault type 1.4 Conduct systemic sampling and testing to identify quality faults and deviations from specifications 1.5 Access and interpret relevant sources of information and check for recent work undertaken to assist analysis 1.6 Analyse collected information to locate cause and source of problem 1.7 Report fault and proposed corrective actions to relevant personnel
2. Rectify plant and equipment faults	2.1 Shutdown and isolate system according to operating procedures 2.2 Identify and repair or replace faulty equipment as required 2.3 Adjust process and carry out operator level maintenance 2.4 Return plant and equipment to normal operations 2.5 Verify and communicate restoration to normal operations to relevant personnel
3. Rectify water quality faults	3.1 Conduct further testing and Interpret results to determine required operational adjustments 3.2 Rectify faults or recommend further action according to operating procedures 3.3 Take action to remedy out-of-specification water
4. Record and report troubleshooting and rectification activities	4.1 Document variations from specifications and performance variations according to workplace requirements 4.2 Record and report diagnostic and corrective action processes to relevant personnel

Foundation Skills	
<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>	
Skill	Description
Reading	<ul style="list-style-type: none"> Interpret information from a range of documentation and test results
Writing	<ul style="list-style-type: none"> Complete accurate detailed records and reports for system and product faults, diagnostic and corrective action processes using the required format
Oral communication	<ul style="list-style-type: none"> Provide comprehensive information about problems with equipment and products using clear language and industry terminology Provide clear unambiguous information about return to normal operations to system operators and other personnel
Numeracy	<ul style="list-style-type: none"> Interpret basic numerical settings on instruments, gauges and data recording equipment Interpret system and product data Record detailed numerical data for system and product test results Use measuring equipment to measure and undertake calculations

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
PPMWAS4XX Troubleshoot and rectify water systems	PPMWAS340 Troubleshoot and rectify water systems Release 2	Changes to elements, performance criteria, foundation skills, performance and knowledge evidence. Assessment conditions updated.	Equivalent

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

TITLE	Assessment requirements for PPMWAS4XX Troubleshoot and rectify water 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 water systems on at least two occasions according to operational requirements, including for each occasion:

- selected and used appropriate troubleshooting methods and testing methods to identify water system, water quality and equipment faults
- diagnosed causes and sources of faults on system and associated processes
- identified and taken timely corrective action to rectify and maximise safety, quality and productivity
- communicated effectively and worked safely with others when undertaking troubleshooting and rectification activities
- completed accurate detailed records for system and water quality faults, diagnostic and corrective action processes on completion of fault rectification activity.

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 water 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 water system operations, including workplace biotechnological applications and processes considerations for troubleshooting and rectification activities
- troubleshooting methods that can be applied across problem faults in water systems
- manufacturer specifications and operating procedures for water system and equipment, including shut down and isolation procedures
- impact of different types of water sources including raw, mains or recycled water on water systems
- use of sampling and testing checks for water quality
- types, key features of water systems, processes and associated services sufficient to troubleshoot including:
 - plant layout
 - theory of operation
 - causes and effects of adjustments made to water system and processes
 - relationships between water system, processes and associated services
- implications of the use of water types
- identification and response to hazards and risks of water systems compressed air, nip points and
- materials and supplies used in water systems including chemicals and filtering mediums
- fully automated, semi-automated, manually operated plant and equipment appropriate to water processes and systems.

Assessment Conditions

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

- physical conditions:
 - skills must be demonstrated in a pulp or paper manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools, equipment and materials used to troubleshoot and repair water systems
 - personal protective equipment required when working with water systems
- specifications:
 - workplace and standard operating procedures relating to troubleshooting and rectifying water systems including health and safety, environmental, risks and hazards identification, plant isolation and quality requirements

Assessment Conditions

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| <ul style="list-style-type: none">• manufacturer specifications and operating procedures.• relationships:<ul style="list-style-type: none">• relevant personnel for the purposes of communicating information. |
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<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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