

**Modification history**

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

PPMPUL3XX	Perform pulping operations
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to prepare for, start up, stabilise and shut down systems for pulping operations.</p> <p>The unit applies to production operators who perform pulping system operations in a pulp manufacturing facility and respond to contingencies that occur with 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>	Pulping operations (PUL)

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 for pulping systems operations	1.1 Identify production requirements to plan and conduct system operations and processes 1.2 Determine grade type and flow rate for production 1.3 Identify work health and safety hazards, assess risks and determine control measures 1.4 Identify process control points according to production specifications 1.5 Determine availability and coordinate process supplies and supply systems to meet production requirements 1.6 Confirm readiness of downstream facilities to receive pulping process product and by-products 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 prepare systems for startup	2.1 Conduct system inspections and pre-startup safety checks according to work health and safety and operating procedures 2.2 Remove isolations and establish and confirm operational settings to required specification 2.3 Set delivery systems for operation 2.4 Check monitoring devices and alarm systems and confirm as operational 2.5 Detect deviations from operational specifications and rectify or report to relevant personnel
3. Start up and establish system operations	3.1 Activate and confirm pulping systems as operational 3.2 Coordinate equipment startups for production 3.3 Confirm production ready status to relevant personnel 3.4 Monitor operational parameters after startup to ensure pulping system operations are within specification 3.5 Sample and test pulp to verify product meets quality specifications 3.6 Adjust system operational parameters to rectify variation from specifications

<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>
4. Coordinate and implement planned shutdown	4.1 Coordinate and communicate planned shutdown of stock preparation operations to relevant personnel 4.2 Manage plant or system shutdown according to productivity requirements, work health and safety and environmental requirements and operating procedures 4.3 Monitor functionality of equipment during shutdown 4.4 Implement isolation requirements according to operating and housekeeping procedures
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 production information	6.1 Record production and quality data and system operation information according to workplace requirements 6.2 Report problems or variations with production, quality and system 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>
PPMPUL3XX Perform pulping operations	PPMPUL320 Prepare and start up pulping system operations	Merges two units. Changes to unit title, elements, performance criteria, foundation skills, performance and knowledge evidence. Assessment conditions updated.	Not equivalent
PPMPUL3XX Perform pulping operations	PPMPUL330 Coordinate and implement pulping plant shutdowns	Merges two units. Changes to unit title, elements, performance criteria, foundation skills, performance and knowledge evidence. Assessment conditions updated.	Not 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>
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<b>TITLE</b>	<b>Assessment requirements for PPMPUL3XX Perform pulping system operations</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 down at least one the following pulping operations for at least two operational intervals:</p> <ul style="list-style-type: none"> <li>• bleaching plant operations</li> <li>• refining</li> <li>• chip preparation</li> <li>• cleaning or washing systems</li> <li>• chemical preparation and treatment</li> <li>• pulp lapping production</li> <li>• digester operations.</li> </ul> <p>In doing the above, there must also be evidence that the individual has 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 systems to rectify variations from specifications and unplanned shutdown</li> <li>• used and interpreted electronic control systems during operations</li> <li>• applied safe use and handling of chemicals and materials</li> <li>• recorded and reported accurate operational data</li> <li>• communicated effectively and worked safely with others when undertaking pulping operations.</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 performing pulping operations, 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 pulping operations, including workplace biotechnological applications and processes and biomass-derived products</li> <li>• methods used to identify and manage hazards and risks that apply to pulping operations</li> <li>• pulping systems and processes, plant layout and associated services relevant to carrying out startup, stabilising and shut down activities</li> <li>• standard operating procedures specific to pulping operations</li> <li>• types of, uses and characteristics of raw materials to produce pulping product and how they influence paper properties</li> <li>• quality requirements for different types of pulp products</li> <li>• purpose of, and processes for sampling and testing product quality, plant and system operations</li> <li>• methods used to monitor pulping system operations against specified system parameters</li> <li>• causes and effects of process variation between upstream and downstream customers</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 pulping operations</li> <li>• responses used for unplanned shutdowns, including those caused by power outage, mechanical breakdown, blockages, jamming, air supply and control system failure.</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:</li> </ul>	

<b>Assessment Conditions</b>	
<ul style="list-style-type: none"> <li>• skills must be demonstrated in a pulp manufacturing facility or an environment that accurately represents workplace conditions</li> <li>• resources, equipment and materials:                             <ul style="list-style-type: none"> <li>• pulping system as specified in performance evidence</li> <li>• maintenance tools and equipment and consumables for pulping plant</li> <li>• electronic control systems which include digital control system, touch screens or robotics used in pulping systems</li> <li>• consumable materials including either pulp or chemicals</li> <li>• personal protective equipment required for operating pulping systems</li> <li>• test and diagnostic equipment</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 pulping operations including health and safety, risks and hazards identification, plant isolation, quality, housekeeping and environmental requirements</li> </ul> </li> <li>• relationships:                             <ul style="list-style-type: none"> <li>• relevant personnel for the purposes of communicating information.</li> </ul> </li> </ul>	

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