

**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.

PPMREC320	Prepare and start up chemical recovery operations
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to prepare and start up chemical recovery operations in a pulp or paper manufacturing facility. This work typically involves complex integrated equipment and continuous operations.</p> <p>The unit applies to production operators and technicians who establish the production and quality processes after preparing and starting up chemical recovery systems. 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.</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. Determine production requirements for chemical recovery	1.1 Determine processing rates for production and communicate to relevant personnel 1.2 Determine availability of incoming supplies to meet production requirements 1.3 Confirm readiness and availability of facilities to receive process product and/or by-products 1.4 Select, fit, use and maintain personal protective equipment according to job requirements and task to be undertaken
2. Inspect and prepare systems for startup	2.1 Complete pre-startup checks in line with work health and safety regulations, environmental and safe working requirements or practices 2.2 Identify and deal with hazards according to safe workplace procedures 2.3 Confirm operational settings against specification requirements 2.4 Set delivery systems for operation according to standard operating procedures 2.5 Check monitoring devices and systems and confirm as operational 2.6 Rectify faults that have been identified 2.7 Confirm production ready status with relevant personnel
3. Start up operations	3.1 Activate systems and confirm as operational 3.2 Co-ordinate equipment startups for production 3.3 Communicate process operation to relevant personnel 3.4 Record production startup details according to organisational procedures
4. Establish and stabilise the production and quality processes	4.1 Monitor and adjust chemical recovery systems to rectify variations from specifications 4.2 Take samples and action appropriately 4.3 Verify product tests as within specification according to organisational procedures 4.4 Record system operation, production and quality data 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>Interpret chemical recovery requirements for operation (temperatures, oxidation, combustion and evaporation rates)</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Interpret and verify test results</li> <li>Interpret instruments, gauges and data recording equipment</li> </ul>
Interact with others	<ul style="list-style-type: none"> <li>Interpret non-verbal instructions including hand signals, signage and alarms</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>
PPMREC320 Prepare and start up chemical recovery operations Release 2	PPMREC320 Prepare and start up chemical recovery operations Release 1	Performance criteria added, minor changes to knowledge evidence	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>
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<b>TITLE</b>	<b>Assessment requirements for PPMREC320 Prepare and start up chemical recovery operations</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 prepared and started up chemical recovery processes, at least twice in line with required enterprise intervals, including:</p> <ul style="list-style-type: none"> <li>• conducted checks to ensure availability of incoming supplies</li> <li>• removed isolations to activate startup</li> <li>• conducted pre-startup checks of plant and equipment including instrumentation</li> <li>• conducted checks to ensure readiness and availability of facilities to receive process product and/or by-products</li> <li>• determined chemical recovery requirements (temperatures, oxidation, combustion and evaporation rates) for operation</li> <li>• input operational settings (set points) in preparation for startup in accordance with standard operating procedures (SOP)</li> <li>• activated and confirmed operation of chemical recovery system according to SOP</li> <li>• made process control adjustments to stabilise production and quality</li> <li>• taken samples of product, conducted tests, interpreted and recorded results to regulate product consistency and quality</li> <li>• during the startup process, demonstrated safe use for different types of chemicals</li> <li>• used electronic and other control systems to control equipment and processes.</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 licensing requirements where relevant</li> </ul> </li> <li>• relationships within the chemical recovery area members and with the area's suppliers and customers</li> <li>• cause and effects of operational equipment faults</li> <li>• working knowledge of chemical recovery operations, processes, layout and associated services sufficient to carry out startup activities</li> <li>• control points of the preparation for startup procedure</li> <li>• control points of the startup procedure</li> <li>• purpose of the process controls and how the changes affect the operation's variables</li> <li>• purpose of each of the steps in the preparation of the chemical recovery system for production</li> <li>• sampling and testing process for plant and system operations, and process monitoring - purpose, standards and procedures as per site agreements.</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 chemicals and equipment required to start up chemical recovery operations in a pulp or paper manufacturing facility</li> <li>• PPE required for operating chemical recovery systems</li> <li>• pumps and transfer equipment</li> </ul> </li> </ul>	

<b>Assessment Conditions</b>	
<ul style="list-style-type: none"><li>• mechanical, hydraulic and electrical systems</li><li>• process monitoring and management equipment.</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>