

**Modification history**

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

<b>PPMREC4XX</b>	<b>Troubleshoot and rectify chemical recovery operations</b>
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to identify, diagnose, rectify and report on process, equipment and quality faults in the chemical recovery operations of a pulp and paper manufacturing facility.</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 faults that occur in continuous chemical recovery.</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>	Chemical recovery operations (REC)

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 process and quality faults	1.1 Prepare for rectification chemical recovery operations according to productivity requirements and work health and safety and environmental procedures 1.2 Identify safety hazards and determine risk control measures with relevant personnel 1.3 Interpret warning devices and make observations on plant and processes to determine fault type and location 1.4 Conduct systemic sampling and testing and interpret results to detect quality faults and variations from specifications 1.5 Access and use relevant sources of information and check for recent work undertaken to assist analysis 1.6 Analyse causes and sources of process problems or equipment faults and impact on productivity requirements 1.7 Report fault and proposed corrective actions to relevant personnel
2. Rectify process problems and equipment faults	2.1 Conduct operator level on-line adjustments 2.2 Shut down and isolate plant according to work health and safety and operating procedures 2.3 Isolate, by-pass and repair or replace faulty equipment according to equipment specifications 2.4 Return plant and equipment to normal operations 2.5 Verify and communicate rectification to relevant personnel
3. Rectify product quality faults	3.1 Conduct further testing and interpret results to determine required operational adjustments 3.2 Rectify faults and causes or recommend further action according to operating procedures 3.3 Manage out-of-specification product
4. Record and report troubleshooting and rectification activities	4.1 Document system and product faults and details of hazardous conditions or situations according to workplace requirements 4.2 Record and report diagnostic and corrective action processes to relevant personnel

<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 a range of documentation</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Complete accurate detailed records and reports for system and product faults, diagnostic and corrective action processes using the required format</li> </ul>
Oral communication	<ul style="list-style-type: none"> <li>Provide comprehensive information about problems with equipment and products using clear language and industry terminology</li> <li>Provide clear unambiguous information about return to normal operations to system operators and other personnel</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Interpret basic numerical settings on instruments, gauges and data recording equipment</li> <li>Interpret system and product data</li> <li>Record detailed numerical data for system and product test results</li> <li>Use measuring equipment to measure and undertake calculations</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>
PPMREC4XX Troubleshoot and rectify chemical recovery operations	PPMREC440 Troubleshoot and rectify chemical recovery operations Release 2	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 PPMREC4XX Troubleshoot and rectify 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.</p> <p>There must be evidence that the individual has carried out troubleshooting and rectification activities for chemical recovery operations, on at least two occasions according to operational requirements, including for each occasion:</p> <ul style="list-style-type: none"> <li>selected and used appropriate troubleshooting methods to correct chemical processes, plant operations or quality faults</li> <li>diagnosed causes and sources of faults on processes, plant and associated processes</li> <li>identified and rectified faults in processes and plant</li> <li>communicated effectively and worked safely with others when undertaking troubleshooting and rectification activities</li> <li>completed accurate detailed records for process and product faults, diagnostic and corrective action processes on completion of fault rectification activity.</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 and risk measures relevant to operating, troubleshooting and rectifying chemical recovery operations, including emergency procedures, handling chemical and hazardous substances, high risk load shifting, licensing requirements, plant clearance and permit systems</li> <li>environmental requirements relevant to chemical recovery operations, including disposal procedures</li> <li>purpose, standards and procedures used for troubleshooting chemical recovery operations, including routine physical inspections and sampling and testing for quality checks</li> <li>manufacturer specifications and operating procedures for chemical recovery plant and equipment, including shut down and isolation procedures</li> <li>chemical recovery plant, processes, layout and associated services including: <ul style="list-style-type: none"> <li>plant layout</li> <li>process and equipment operation</li> <li>causes and effects of adjustments made to chemical recovery plant and processes</li> <li>relationships between chemical recovery system, processes and associated services</li> </ul> </li> <li>use of electronic and other control systems, operation and application to make appropriate adjustments that control the chemical recovery operations.</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 pulp or 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>tools, equipment and materials used to troubleshoot and rectify chemical recovery systems</li> <li>personal protective equipment required when working with chemical recovery systems</li> <li>pumps and transfer equipment</li> <li>mechanical, hydraulic and electrical systems</li> <li>process monitoring and management equipment</li> </ul> </li> <li>specifications: <ul style="list-style-type: none"> <li>workplace and standard operating procedures relating to troubleshooting and rectifying chemical recovery systems including health and safety, environmental, risks and hazards identification, plant isolation and quality requirements</li> <li>manufacturer specifications and operating procedures.</li> </ul> </li> <li>relationships: <ul style="list-style-type: none"> <li>relevant personnel for the purposes of communicating information.</li> </ul> </li> </ul>	

<b>Assessment Conditions</b>
Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

<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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