

Modification history

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

PPMREC3XX	Perform chemical recovery operations
Application	<p>This unit of competency describes the skills and knowledge required to prepare for, startup, stabilise and shut down systems for chemical recovery operations.</p> <p>The unit applies to production operators who perform chemical recovery operations in a pulp and paper manufacturing facility, and respond to contingencies that occur 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>
Prerequisite Unit	Nil
Unit Sector	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. Prepare for chemical recovery operations	1.1 Identify production requirements and processing rates 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 Determine availability of incoming supplies to meet production requirements 1.5 Confirm readiness and availability of facilities to receive process product and, if required, by-products 1.6 Select, fit, use and maintain personal protective equipment according to job requirements and task to be undertaken 1.7 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 Inspect system and complete pre-startup checks according to work health and safety, environmental and operating procedures 2.2 Confirm operational settings against specification requirements 2.3 Set delivery systems for operation according to operating procedures 2.4 Check and confirm monitoring devices and systems as operational 2.5 Identify and rectify common faults or refer complex faults to specialist technician 2.6 Confirm production ready status with relevant personnel
3. Start up and stabilise operations	3.1 Coordinate, communicate and implement startup procedures for chemical recovery operations 3.2 Activate systems according operating procedure and confirm as operational 3.3 Monitor and adjust chemical recovery systems to rectify variations from specifications 3.4 Take samples to ensure quality is with specifications 3.5 Adjust and modify system to stabilise quality within specifications

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Implement and monitor system shutdown	4.1 Coordinate and communicate planned shutdown of chemical recovery operations to relevant personnel 4.2 Manage plant or system shutdown according to productivity, 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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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 workplace procedures and documentation
Writing	<ul style="list-style-type: none"> Complete records accurately and legibly using clear language and industry terminology
Oral communication	<ul style="list-style-type: none"> Provide information about start up and shut down operations, problems or variations with production, quality and system using clear language and industry terminology
Numeracy	<ul style="list-style-type: none"> Interpret numerical settings on instruments, gauges and data recording equipment Record numerical data for system and operational performance

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
PPMREC3XX Perform chemical recovery operations	PPMREC320 Prepare and start up chemical recovery operations	Merges two units. Changes to unit title, elements, performance criteria, foundation skills, performance and knowledge evidence. Assessment conditions updated.	Not equivalent
PPMREC3XX Perform chemical recovery operations	PPMREC330 Coordinate and implement chemical recovery shutdowns	Merges two units. Changes to unit title, elements, performance criteria, foundation skills, performance and knowledge evidence. Assessment conditions updated.	Not equivalent

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93
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TITLE	Assessment requirements for PPMREC3XX Perform chemical recovery operations
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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must evidence that the individual has planned for, coordinated, and safely started up and shut down chemical recovery operations for at least two operational intervals, including for each operational interval:

- determined chemical recovery temperatures, oxidation, combustion and evaporation rates for operation
- determined and monitored process control points
- monitored, assessed causes and adjusted systems to rectify variations from specifications and unplanned shutdown
- used and interpreted electronic control systems during operations
- applied safe use and handling of chemicals and materials
- recorded and reported accurate operational data
- communicated effectively and worked safely with others when undertaking chemical recovery operations.

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 relevant to performing chemical recovery operations, 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 chemical recovery operations, including workplace biotechnological applications and processes and biomass-derived products
- methods used to identify and manage hazards and risks that apply to chemical recovery operations
- chemical recovery systems and processes, plant layout and associated services relevant to carrying out startup, stabilising and shut down activities
- standard operating procedures specific to chemical recovery operations
- types of, uses and characteristics of raw product and by-products for chemical recovery operations and how they influence paper properties
- quality requirements for different types of chemical recovery products
- purpose of, and processes for sampling and testing product quality, plant and system operations
- methods used to monitor chemical recovery system operations against specified system parameters
- effect of process adjustments on product quality and productivity during operation
- application of electronic and other control systems used to operate, control and make appropriate adjustments to chemical recovery operations
- responses used for unplanned shutdowns, including those caused by power outage, mechanical breakdown, blockages, jamming, air supply and control system failure.
- procedures for communicating, recording and reporting for system operation, production outcomes and equipment faults.

Assessment Conditions

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

- physical conditions:
 - skills must be demonstrated in a pulp and paper manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chemical recovery system and plant
 - pumps and transfer equipment
 - mechanical, hydraulic and electrical systems
 - process monitoring and management equipment
 - maintenance tools and equipment and consumables for chemical recovery plant

Assessment Conditions
<ul style="list-style-type: none"> • electronic control systems which include digital control system, touch screens or robotics used in chemical recovery systems • chemical and materials used in chemical recovery processes • personal protective equipment required for operating chemical recovery systems • proforma or recording system for recording system and production data and information • specifications: <ul style="list-style-type: none"> • workplace and standard operating procedures relating to chemical recovery operations including health and safety, risks and hazards identification, plant isolation, quality, housekeeping and environmental requirements • relationships: <ul style="list-style-type: none"> • relevant personnel for the purposes of communicating information. <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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