



**Australian Government**

# **PPMWEO401 Troubleshoot and rectify wet end systems**

**Release: 1**

# PPMWEO401 Troubleshoot and rectify wet end systems

## Modification History

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

## Application

This unit of competency describes the skills and knowledge required to analyse, rectify and report on system, equipment and quality faults in the wet end operations of a paper manufacturing facility.

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 wet end operations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## Pre-requisite Unit

Nil

## Unit Sector

Wet End Operations (WEO)

## Elements and Performance Criteria

| 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 wet end system according to productivity requirements and workplace health and safety and environmental procedures<br>1.2 Identify safety hazards and determine risk control measures with relevant personnel<br>1.3 Interpret alarm mechanism and make observations on plant and processes to determine fault type and location |

| Elements                                                          | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>                  | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                                     |
|                                                                   | 1.4 Conduct systemic sampling and testing and interpret results to detect quality faults and variations from operating parameters<br>1.5 Access and interpret relevant sources of information and check for recent work undertaken on plant to assist analysis<br>1.6 Analyse causes and sources of process problems or equipment faults and impact on productivity requirements<br>1.7 Report fault and proposed corrective actions to relevant personnel |
| 2. Rectify systems and equipment faults                           | 2.1 Shut down and isolate equipment according to operating procedures<br>2.2 By-pass faulty equipment where the process allows<br>2.3 Repair or replace faulty equipment according to equipment specifications<br>2.4 Make corrective adjustments to equipment according to equipment specifications<br>2.5 Undertake operator-level maintenance as required<br>2.6 Verify restoration to normal operation and communicate to relevant personnel           |
| 3. Rectify product quality faults                                 | 3.1 Conduct further testing and interpret results to determine required operational adjustments<br>3.2 Rectify faults and causes according to operating procedures<br>3.3 Manage out-of-specification product                                                                                                                                                                                                                                              |
| 4. Record and report troubleshooting and rectification activities | 4.1 Document variations from process and product specifications according to workplace requirements<br>4.2 Record and report diagnostic and corrective action processes to relevant personnel                                                                                                                                                                                                                                                              |

## Foundation Skills

*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.*

| Skill | Description |
|-------|-------------|
|-------|-------------|

| Skill              | Description                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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>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>                                 |
| Oral communication | <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> |
| 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> |

## Unit Mapping Information

| Code and title<br>current version                           | Code and title<br>previous version                          | Comments                                                                                                                                                      | Equivalence status |
|-------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| PPMWEO401<br>Troubleshoot and<br>rectify wet end<br>systems | PPMWEO440<br>Troubleshoot and<br>rectify wet end<br>systems | Changes to elements,<br>performance criteria,<br>foundation skills,<br>performance evidence and<br>knowledge evidence<br><br>Assessment conditions<br>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>

# Assessment Requirements for PPMWEO401 Troubleshoot and rectify wet end 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 at least one of the following wet end system types, on at least two occasions according to operational requirements:

- stock approach systems
- forming system
- pressing systems
- cleaning and screening system.

In doing the above, the individual must have, for each occasion:

- selected and used appropriate troubleshooting and testing methods to identify system and product quality 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 product 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 wet end systems, including emergency procedures, handling chemical and hazardous substances, high risk load shifting, licensing requirements, plant clearance and permit systems
- environmental requirements relevant to wet end systems, including disposal procedures

- manufacturer specifications and operating procedures for wet end plant and equipment, including shutdown and isolation procedures
- wet end plant, processes and associated services sufficient to troubleshoot, including:
  - plant layout
  - theory of operation
  - causes and effects of adjustments made to wet end plant and processes
  - relationships between wet end plant, processes and associated services
- troubleshooting methods that can be applied across system and problem faults in wet end systems
- sampling and testing process for plant and system operations, and process monitoring – purpose, standards and procedures as per site agreements
- use and handling requirements of chemicals used; their purpose, effects, Safety Data Sheets (SDS) and standard operating procedures
- causes and effects of unplanned shutdown, and appropriate responses
- mill maintenance system as it applies to wet end plant and processes
- electronic and other control systems, operation and application to make appropriate adjustments that control wet end operations.

## 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 paper manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
  - fully automated, semi-automated and manually operated plant and equipment appropriate to the wet end process, and related consumables
  - tools, equipment and materials used to troubleshoot and rectify wet end systems
  - personal protective equipment required for troubleshooting wet end systems
  - proforma or recording system for recording diagnostic and corrective action processes
- specifications:
  - workplace and standard operating procedures relating to troubleshooting and rectifying wet end systems, including health and safety, environmental, risks and hazards identification, plant isolation and requirements
  - manufacturer specifications and operating procedures
- relationships:
  - relevant personnel for the purposes of communicating information.

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

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