

Title	Troubleshoot a pulp manufacturing operation		
Level	4	Credits	15

Purpose	People credited with this unit standard are able to: analyse a pulping operation and propose corrective actions to optimise the operation; troubleshoot a pulping operation for a range of production problems and make recommendations; and review and reflect on the troubleshooting techniques applied and identify improvements.
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Classification	Wood Fibre Manufacturing > Pulp Making
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Available grade	Achieved
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Guidance Information

1 Legislation and references

Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:

- Hazardous Substances and New Organisms Act 1996;
- Health and Safety at Work Act 2015;
- Resource Management Act 1991;
- Health and Safety at Work (Major Hazard Facilities) Regulations 2016.

2 Definition

Worksite documentation refers to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace, and are consistent with manufacturer's requirements. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, sustainability, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the pulp making industry.

3 Range

Pulping operation includes – mechanical pulping, mechanical pulp bleaching, kraft pulping, kraft pulp bleaching;
Evidence is required for one.

4 Assessment information

Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, worksite documentation and legislative requirements. This includes the knowledge and use of suitable tools and equipment.

Outcomes and performance criteria

Outcome 1

Analyse a pulping operation and propose corrective actions to optimise the operation.

Performance criteria

- 1.1 Standard operating procedures are analysed, and parts of the process that are not controlled at standard conditions and reasons for the deviations are identified.
- 1.2 Potential problems for the pulping process and remedial actions are proposed in the analysis of inputs.

Range inputs may include but are not limited to – chips, pulp, chemicals, water, steam, power (electrical).
- 1.3 Potential problems for the pulping operation, and remedial actions are proposed in the analysis of equipment condition.
- 1.4 Potential problems for the pulping operation, and remedial actions are proposed in the analysis of in-process product variations.

Outcome 2

Troubleshoot a pulping operation for a range of production problems and make recommendations.

Performance criteria

- 2.1 Equipment failures at process stages are identified and their relationship to the specified production problem is investigated.
- 2.2 Bottlenecks in the pulping operation that may relate to the specified production problem are identified and investigated.
- 2.3 The potential for production rate and product quality improvement is identified from the investigation.
- 2.4 Potential solutions that would resolve a specific production problem are identified and justified using problem solving techniques.
- 2.5 Recommendations are made on the actions required to confirm the analysis and implement the best solution to the identified production problem.

Outcome 3

Review and reflect on the troubleshooting techniques applied and identify improvements.

Performance criteria

- 3.1 Troubleshooting techniques applied are reviewed.
- 3.2 Alternative interpretations from other members of the operation are gathered.
- 3.3 Troubleshooting outcomes from the review and identified improvements are reflected upon.

Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 December 2006	31 December 2024
Review	2	24 October 2014	31 December 2025
Review	3	30 November 2023	N/A

Consent and Moderation Requirements (CMR) reference	0173
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.