

Title	Control a pulp storage system in the pulp or paper manufacturing industry		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of pulp storage systems; operate a pulp storage system; and monitor and control the performance of a pulp storage system.
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Classification	Wood Fibre Manufacturing > Pulp and Paper Manufacturing Skills
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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 Definitions

Operating parameters refer to the boundary conditions in which the operations are carried out in pulp storage systems.

Operating procedures refer to the process(es) that are worked through, e.g. standard operating procedure (SOP) in pulp storage systems.

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 and paper industry.

3 Range

Pulp storage system includes – pumps, valves, pipelines, storage tanks used in pulp storage.

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

Demonstrate knowledge of pulp storage systems.

Performance criteria

1.1 Purpose and function of pulp storage systems are explained.

Range high density and low density.

1.2 Operating principles of pulp storage systems are explained.

Range operating principles may include but are not limited to – pulp sources, pH and temperatures, levels, volumes, retention times, agitation, plug layering flow.

1.3 Operating components and process controls of pulp storage systems are described and their purpose is explained.

Range components may include but are not limited to – storage tanks, tank linings, agitators, pumps, consistency control, dilution control, pipe work, instrumentation, distributed control system.

1.4 Process parameters and capabilities of pulp storage equipment at the candidate's worksite are explained.

1.5 Hazards associated with pulp storage equipment are identified, and actions to be taken to minimise, or eliminate the hazards are explained.

Range hazards may include but are not limited to – heat, steam, head pressure, confined space, pulp hang ups, gas, height, chemicals, spillage.

1.6 Consequences of non-conformance of pulp storage with worksite operating procedures are explained.

Range consequences may include but are not limited to – internal and external customer requirements, environmental issues, internal and external suppliers' expectations.

1.7 Responsibilities of the pulp storage system operator are explained.

Outcome 2

Operate a pulp storage system.

Performance criteria

- 2.1 Safe work practices associated with operating a pulp storage system are identified and used.
 - Range practices may include but are not limited to – isolation procedures, lock-out or tag-out, emergency stops, machine guarding, wearing appropriate safety equipment.
- 2.2 Pulp storage system is set up, started up, operated, and shut down.
- 2.3 Operating parameters are set and adjusted to enable production requirements to be achieved.
 - Range operating parameters may include but are not limited to – consistency, temperature, level, pH; production requirements – product quality, quantity, grade change.
- 2.4 Essential care and housekeeping requirements for the pulp storage system are carried out.

Outcome 3

Monitor and control the performance of a pulp storage system.

Performance criteria

- 3.1 Pulp storage system is monitored and parameters are controlled in accordance with operating parameters.
- 3.2 Operating and equipment faults and malfunctions are identified, and relevant corrective actions are taken.
 - Range operating faults and malfunctions may include but are not limited to – blockages, pump failure, agitator failure, overflows; equipment faults and malfunctions may include but are not limited to – electrical, mechanical, instrumentation, distributed control system.
- 3.3 Pulp supply from the storage system is monitored for production rate and product quality to meet the customer requirements.
- 3.4 Production and quality records are completed.

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	22 February 1995	31 December 2024
Revision	2	27 January 1997	31 December 2024
Review	3	25 February 1999	31 December 2024
Review	4	18 December 2006	31 December 2024
Review	5	24 October 2014	31 December 2025
Review	6	30 November 2023	N/A

Consent and Moderation Requirements (CMR) reference

0173

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.