

Field Manufacturing

Review of *Pulp and Paper – Chemical Plants* unit standards

Subfield	Domain	ID
Wood Fibre Manufacturing	Pulp and Paper – Chemical Plants	3617-3620, 3622-3627, 3637, 3638, 5680, 15821, 15823, 16287, 16292, 21492-21496

Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council has completed the review of the unit standards listed above.

Date new versions published

November 2023

Planned review date

December 2028

Summary

Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council initiated a combined review of the qualification New Zealand Certificate in Pulp and Paper Manufacturing Level 4 [Ref: 2320] and unit standards in the Paper Making, Pulp and Paper Chemical Plant, Pulp and Paper Manufacturing, Pulp and Paper Technology, Pulp Making domains. This review was triggered by the regular 5-year review cycle. The Technical Advisory Group (TAG) consisted of industry and provider representatives who have consent to assess. TAG meetings occurred between May 2022 and June 2023.

The unit standards covered in this application that are being used were updated in line with current industry practices, standards, acts and regulations. This was done in consultation with industry representatives and providers with consent to assess during many online TAG meetings.

Unit standards that have little or no usage in the past five years or more have been due to low staff turnover across the Pulp and Paper Manufacturing Industry, however industry analysis has identified that 30% of staff are expected to leave the workforce over the next three years due to retirement and it is anticipated these standards will be needed to upskill the replacement workforce.

Main changes

- Standard setting body details has been updated from Competenz to Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council.
- Guidance information and document formatting have been updated to meet current NZQA requirements.
- Reference to text in the Guidance Information section has been removed since it is out of date.
- Wording has been simplified across the suite of unit standards in response to industry stakeholder request for use of clear direct language.
- Titles of five unit standards have been amended from 'pulp *and* paper' to 'pulp *or* paper' since work-based learners are working in either a pulp or paper manufacturing site, but not both.
- Titles of unit standards 3637 and 5680 have been amended to 'Demonstrate knowledge of' to reflect the outcomes of these standards. Lime kiln operation has been removed from the title of unit standard 3637 since this is part of the causticising process.
- Titles of unit standards 3625, 3627, 15821 and 16287 have been amended to align with the content of the standards.
- Prerequisite in unit standard 3619 has been removed as unit standard 3638 has been set to expire. A note was added to the guidance information to reiterate that legislation requires that operators of these boilers hold a relevant boiler operating qualification.

- Prerequisite in unit standard 3626 has been removed as unit standard 3637 is not sufficiently relevant for it to be recommended prior to undertaking unit standard 3626.
- Relevant standards with Outcome 1 'Explain' have been amended to 'Demonstrate knowledge of' to align with the performance criteria.
- Performance criteria and range statements have been updated where relevant to reflect the level, outcomes and current pulp and paper industry practices.
- Range statements in standards 3617-3619, 3622-3624, 3626, 3627, and 21495 have been amended to soft range statements due to the different plant, equipment and resources available in each industry setting.
- Six unit standards have been set to expire and not replaced due to the chemical plant and processes are no longer being used in the pulp and paper industry in New Zealand.

Category D unit standards will expire at the end of December 2025

The last date for assessment of the most recent superseded version of Category B unit standards is 31 December 2025.

The last date of assessment for earlier superseded versions of Category B unit standards is 31 December 2024

Detailed list of unit standards – classification, title, level, and credits

Key to review category	
A	Dates changed, but no other changes are made – the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same – the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Manufacturing > Wood Fibre Manufacturing > Pulp and Paper – Chemical Plants

ID	Title	Level	Credit	Review Category
3617	Clarify liquor for wood pulp manufacturing	3	5	B
3618	Slake lime and regenerate liquor for wood pulp manufacturing	3	10	B
3619	Control chemical recovery boiler systems for wood pulp manufacturing	5	20	B
3620	Condition liquor using black liquor evaporator for wood pulp manufacturing	4	15	B
3622	Condition liquor using BLOX plant for wood pulp manufacturing	3	5	B
3623	Process crude tall oil from tall oil soap as a by-product of wood pulp manufacturing	4	5	B
3624	Process crude sulphate turpentine and red oil as a by-product of wood pulp manufacturing	4	5	B
3625	Operate and acid wash a white liquor pressure filter for wood pulp manufacturing Operate and acid wash white liquor pressure filter equipment for wood pulp manufacturing	3	8	B
3626	Manufacture burnt lime for kraft liquor production in a pulp and paper plant Manufacture burnt lime for kraft liquor production in a pulp or paper plant	4	5	B

ID	Title	Level	Credit	Review Category
3627	Filter lime mud for burnt lime manufacture in a pulp and paper plant Operate a drum filter to filter lime mud for burnt lime manufacture in a pulp or paper plant	4	5	B
3637	Describe principles of causticising and lime kiln operation in wood pulp manufacturing Demonstrate knowledge of the principles of causticising in wood pulp manufacturing	3	10	B
3638	Describe principles of black liquor combustion for wood pulp manufacturing	3	5	D
5680	Explain principles of the chemical recovery process in the production of kraft wood pulp Demonstrate knowledge of the principles of the chemical recovery process in the production of kraft wood pulp	4	5	B
15821	Prepare primary brine for electrolysis in pulp and paper chemical plants Prepare primary brine in pulp or paper chemical plants	4	10	B
15823	Prepare, test, and wash electrolyzers for pulp and paper chemical plant production	4	10	D
16287	Prepare purified brine for electrolysis in pulp and paper chemical plants Prepare purified brine in pulp or paper chemical plants	4	10	B
16292	Manufacture sodium chlorate in a pulp and paper chemical plant	5	15	D
21492	Generate chlorine dioxide for wood pulp bleaching	5	15	D
21493	Manufacture sodium hydroxide and chlorine products for pulp bleaching	5	30	D
21494	Shut for maintenance and restart a chlorine-based chemical plant in pulp manufacturing	5	20	D
21495	Operate a waste gas system in a kraft pulp chemical plant	4	5	B
21496	Load pulp and paper chemical by-products into road or rail tankers Load pulp or paper chemical by-products into road or rail tankers	4	5	B