

Field Manufacturing

Review of *Pulp and Paper Technology* unit standards

Subfield	Domain	ID
Wood Fibre Manufacturing	Pulp and Paper Technology	17856, 17858, 17859, 17863-17868, 28811, 28812

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.

Unit standards 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.
- Wording has been simplified across the suite of unit standards in response to industry stakeholder request for use of clear direct language.
- Changes have been made to CAT B standards to refer standards to acts and regulations, add clarity to outcome statements and performance criteria, and correct formatting.
- The title of unit standard 17856 has been changed to align with the contents.
- The title of unit standard 17863 has been changed to align with the outcomes 'Demonstrate knowledge of'. Its credit value has been increased from 10 to 15 credits.
- Titles of unit standards 17866, 17867, and 17868 have been changed from "Explain" to 'Demonstrate knowledge of' to reflect the desired outcomes.
- The title of unit standard 28811 has been changed and the credit value of this unit standard has been increased from 10 to 15. Several performance criteria have been added to outcomes 2 and 5 to reflect actual time for learning and assessment.
- The title and outcomes of unit standard 17865 have been amended with the removal of outcomes 3 and 6 and the change from "explain" to "Demonstrate knowledge of" in other

- outcomes to better align with the decrease of credit value from 10 to 7 credits.
- 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 many unit standards have been amended to soft range statements due to the different plant, equipment and resources available in each industry setting as advised by industry.
- Unit standard 28812 has been set to expire and is being replaced with a new unit standard 33293 which has increased a level from level 3 to level 4 due to the increased complexity of the inclusion of scientific theories in the standard. This new standard has a new outcome 5 and a new performance criterion added to outcome 2.
- Unit standard 17864 has been set to expire as its content is covered in unit standard 12900 in the Paper Making domain.

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

The last date for assessment of the most recent superseded versions 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

All changes are in **bold**.

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 Technology

ID	Title	Level	Credit	Review Category
17856	Demonstrate knowledge of pulp and paper products Demonstrate knowledge of pulp, and paper products produced in New Zealand pulp and paper making industries	3	4	B
17858	Demonstrate knowledge of manufacturing processes involved in wood pulping and paper making Describe the manufacturing processes involved in wood pulping and paper making	3	10	B
17859	Demonstrate knowledge of furnish preparation for paper making	3	10	B
17863	Explain principles of pulp and paper sheet formation, pressing, drying and reeling Demonstrate knowledge of the principles of pulp and paper sheet formation, pressing, drying and reeling	4	10 15	B
17864	Explain fundamentals of paper finishing	3	5	D
17865	Explain fundamentals of mechanical wood pulps and pulping processes Demonstrate knowledge of the fundamentals of mechanical wood pulps and pulping processes	4	10 7	B
17866	Explain fundamentals of kraft pulps and pulping processes Demonstrate knowledge of kraft pulps and pulping processes	4	10	B
17867	Explain fundamentals of kraft pulp bleaching Demonstrate knowledge of kraft pulp bleaching	4	10	B
17868	Explain fundamentals of the recycling of fibre for paper making Demonstrate knowledge of the recycling of fibre for paper making	4	10	B
28811	Demonstrate knowledge of physical and chemical principles used in pulp and paper manufacturing Demonstrate knowledge of physical and chemical principles used in pulp or paper manufacturing	4	10 15	B
28812	Demonstrate knowledge of scientific principles and energy costs that apply to pulp and paper manufacturing	3	10	C
33293	Demonstrate knowledge of scientific principles, energy costs and fluid mechanics related to pulp or paper manufacturing	4	10	