

## Field      Engineering and Technology

### Review of *Water Industry* unit standards

Subfield	Domain	ID
Water Industry	Water - Generic	24904, 24913, 24917, 30004 - 30007
	Water Treatment	17891, 17894, 17896, 17897, 18456, 19199, 19357, 24897, 24905, 24906, 24950, 24975, 29966-29992, 29994, 29995, 29999, 30000

Waihanga Ara Rau Construction and Infrastructure Workforce Development Council has completed the review of the unit standards listed above.

**Date new versions published**

**May 2022**

**Planned review date**

**December 2027**

### Summary

Waihanga Ara Rau Construction and Infrastructure Workforce Development Council reviewed unit standards in the Water Industry subfield as part of a scheduled review. Consultation with industry and organisations with consent to assess occurred by email and via the Connexis website. Legislation was updated, and minor wording changes were incorporated.

### Main changes

- Guidance Information was updated in all unit standards to recognise new legislation.
- The titles of unit standards 17891, 24905, 24917, and 29967 were amended to better reflect the outcomes.
- The level of unit standards 24906 and 29995 was increased from Level 4 to Level 5 to align them with the level of the programme in which they are used.
- A theoretical outcome was removed from selected unit standards at Level 5 to focus on the assessment of practical outcomes.
- Seven unit standards were designated expiring because of low usage.

**Category D unit standards will expire at the end of December 2023**

**The last date for assessment of superseded versions of Category B unit standards is December 2024**

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

All changes are in **bold**.

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

Engineering and Technology > Water Industry > Water - Generic

ID	Title	Level	Credit	Review Category
24904	Describe process control, P and I drawings, and SCADA, for a water or wastewater treatment plant	5	5	D
24913	Describe processes, process control, and monitoring, in a drinking-water or wastewater treatment plant	4	5	B
24917	Demonstrate knowledge of water and wastewater treatment plants quality management <b>Demonstrate knowledge of quality management in water and wastewater treatment plants</b>	4	5	B
30004	Manage assets and operational costs for a water or wastewater treatment plant	5	6	B
30005	Monitor and report on assets and describe operational costs for a water or wastewater treatment plant	4	4	B
30006	Manage visitors, contractors, and staff in a water or wastewater treatment plant	5	10	B
30007	Oversee contractors and visitors on a water or wastewater treatment plant site	4	6	B

Engineering and Technology > Water Industry > Water Treatment

ID	Title	Level	Credit	Review Category
17891	Demonstrate knowledge of quality sampling techniques and programme design for a water treatment site <b>Describe quality sampling techniques and programme design for a water treatment site</b>	4	5	B
17894	Demonstrate knowledge of surface water and groundwater sources	4	7	B
17896	Demonstrate knowledge of water treatment filtration processes	4	10	D
17897	Demonstrate knowledge of water treatment disinfection processes	4	6	D
18456	Describe preventive maintenance and monitoring of standards and compliance conditions for drinking-water treatment	5	6	D
19199	Report on a water supply topic or improvement	5	10	B
19357	Manage preventive maintenance and monitoring of product standards for drinking-water treatment	5	6	D
24897	Describe the contribution of catchment characteristics to raw water quality management	5	8	B
24905	Assess the optimisation of a drinking-water treatment plant, and describe critical control points <b>Assess the optimisation of a drinking-water treatment plant, and identify critical control points</b>	5	10	B
24906	Describe drinking-water contaminants of public health significance	4 5	8	B
24950	Operate and report on a water treatment plant	4	10	B
24975	Describe drinking-water consumption, and water loss and methods of leak detection in drinking-water supply	5	5	D
29966	Demonstrate knowledge of treated drinking-water supply processes and describe critical control points	4	20	B

ID	Title	Level	Credit	Review Category
29967	Manage, monitor and optimise abstraction and pre-treatment processes for drinking-water supply <b>Manage, monitor and optimise abstraction and pre-treatment processes for water sources of drinking-water</b>	5	14	B
29968	Manage, monitor and optimise ultraviolet (UV) disinfection processes for drinking-water treatment	5	10	B
29969	Manage, monitor and optimise chlorine disinfection processes for drinking-water treatment	5	14	B
29970	Manage, monitor and optimise clarification processes for drinking-water treatment	5	10	B
29971	Manage, monitor and optimise coagulation and flocculation processes for drinking-water treatment	5	14	B
29972	Manage, monitor and optimise media filtration processes for drinking-water treatment	5	18	B
29973	Manage, monitor and optimise membrane filtration processes for drinking-water treatment	5	14	B
29974	Manage, monitor and optimise inorganics control processes for drinking-water treatment	5	14	B
29975	Manage, monitor and optimise organics control processes for drinking-water treatment	5	14	B
29976	Manage, monitor and optimise fluoridation processes for drinking-water treatment	5	8	B
29977	Manage application of Ministry of Health strategy and drinking-water standards for a water treatment plant	5	6	D
29978	Manage, monitor and optimise ozone disinfection processes for drinking-water treatment	5	10	B
29979	Manage, monitor and optimise pH and alkalinity control processes for drinking-water treatment	5	10	B
29980	Manage, monitor and optimise waste management processes for drinking-water treatment	5	10	B
29981	Describe and operate abstraction and pre-treatment processes in drinking-water treatment	4	12	B
29982	Describe and operate chlorine disinfection processes in drinking-water treatment	4	12	B
29983	Describe and operate clarification processes in drinking-water treatment	4	10	B
29984	Describe and operate coagulation and flocculation processes in drinking-water treatment	4	12	B
29985	Describe and operate ozone disinfection processes in drinking-water treatment	4	8	B
29986	Describe and operate fluoridation processes in drinking-water treatment	4	6	B
29987	Describe and operate inorganics control processes in drinking-water treatment	4	12	B
29988	Describe and operate media filtration processes in water treatment	4	16	B
29989	Describe and operate membrane filtration processes in drinking-water treatment	4	12	B
29990	Describe and operate pH and alkalinity control processes in drinking-water treatment	4	8	B
29991	Describe and operate organics control processes in drinking-water treatment	4	12	B

<b>ID</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review Category</b>
29992	Describe and operate ultraviolet disinfection processes in drinking-water treatment	4	8	B
29994	Demonstrate knowledge of the regulatory framework relevant to drinking-water supply	4	5	B
29995	Describe the regulatory framework and support tools relevant to the management of drinking-water supplies	4 <b>5</b>	8	B
29999	Undertake sampling and site testing procedures for drinking-water treatment	4	6	B
30000	Describe and operate waste management processes in water treatment	4	8	B