

Field Engineering and Technology

Registration of skill standards and review of unit standards for *Water Industry*

Subfield	Domain	ID
Water Industry	Drinking-Water Assessment	24907, 30001
	Wastewater Treatment	17877, 24927, 24931, 24948, 29929 - 29932, 29934, 29938, 29940, 29950, 29952, 29955, 29957- 29959, 31926, 31933, 31973, 33008, 33010 - 33012
	Water – Generic	17871, 17874, 19200, 24913, 24917, 30005, 30007, 30008
	Water Treatment	17890, 17891, 17894, 24950, 29963 - 29966, 29981 - 29992, 29994, 29996 - 30000, 33013

The Energy and Infrastructure Industry Skills Board has completed the review of the standards listed above.

Date new versions published

May 2026

Planned review date

December 2032

Summary

Waihanga Ara Rau Construction and Infrastructure Workforce Development Council and representatives from the water services industry reviewed *Water Industry* unit standards alongside reviewing the New Zealand Certificate in Water Treatment (Small Scale Systems) (Level 3) [Ref: 2240], New Zealand Certificate in Drinking-water Treatment (Level 4) with optional strand in Multistage Processes [Ref: 4138], New Zealand Certificate in Wastewater Treatment (Level 4) with optional strand in Multistage Processes [Ref: 4142], and New Zealand Certificate in Drinking-water Supply (Assessment) (Level 5) [Ref: 4223] during 2025. This resulted in some unit standards being expired, and some unit standards being replaced by skill standards.

A steering group was established with representatives across the water services industry including wastewater, drinking water, trade waste, and industry associations (WaterNZ and Water Industry Operators Group). Skill standards were developed to better reflect the skills and learning required. Consultation was undertaken using discovery workshops, association and steering group networks, and the Waihanga Ara Rau website, at various stages throughout the review period. Changes to the reviewed skill standards were overseen by the steering group.

Responsibility for the above unit standards and skill standards was transferred from the WDC to the ISB as a result of the VET reforms. The Energy and Infrastructure has finalised these standards for approval.

Main changes

- 38 unit standards were set to expire.
- 23 unit standards were replaced by skill standards.
- 16 new skill standards were developed.

Category C and D standards will expire at the end of December 2028

Detailed list of 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

Engineering and Technology > Water Industry > Drinking-Water Assessment

ID	Title	Level	Credit	Review Category
24907	Demonstrate knowledge of water safety planning	5	7	D
30001	Demonstrate knowledge of data analysis and presentation for drinking-water assessment	4	3	D

Engineering and Technology > Water Industry > Wastewater Treatment

ID	Title	Level	Credit	Review Category
17877 41227	Operate and monitor a wastewater treatment plant Operate and control wastewater treatment plant operations	4 4	10 20	C
24927 41217	Describe, and undertake sampling and testing procedures for wastewater treatment Carry out sampling, testing, and reporting of non-potable water	4 3	7 5	C
24931	Demonstrate knowledge of pumping systems in wastewater treatment	3	6	D
24948	Describe the characteristics of, and sources that affect wastewater	4	6	D
29929	Carry out wastewater treatment operations under supervision	3	5	D
29930 41218	Describe and operate activated sludge processes in wastewater treatment Operate and control activated sludge wastewater treatment processes	4 4	16 15	C
29931	Describe treatment processes for wastewater	3	6	D
29932 41220	Describe and operate effluent disinfection processes in wastewater treatment Operate and control effluent disinfection processes in wastewater treatment	4 4	8 10	C
29934	Describe and operate wastewater effluent application to land	4	6	D
29938	Describe and operate effluent filtration processes in wastewater treatment	4	12	D
29940	Carry out microbiological monitoring for wastewater treatment	4	4	D
29950	Describe and operate nutrient removal processes in wastewater treatment	4	14	D
29952 41221	Describe and operate fixed growth reactor processes in wastewater treatment Operate and control fixed growth reactor processes in wastewater treatment	4 4	10 10	C

ID	Title	Level	Credit	Review Category
29955	Describe and operate preliminary processes in wastewater treatment	4	7	C
41222	Operate and control preliminary wastewater treatment processes	4	12	
29957	Describe and operate separation processes in wastewater treatment	4	9	C
41223	Operate and control separation processes in wastewater treatment	4	10	
29958	Describe and operate sludge treatment processes in wastewater treatment	4	12	C
41224	Operate and control sludge in wastewater treatment	4	15	
31926	Describe wastewater treatment processes, hazards, and the management of critical control points	4	20	D
31973	Describe sludge and biosolids management processes in wastewater treatment	4	6	D
33008	Demonstrate knowledge of the legislative framework relevant to small wastewater systems	3	5	D
33010	Demonstrate knowledge of small wastewater systems	3	5	D
33011	Operate and maintain a small wastewater system	3	8	D
33012	Undertake sampling and water quality monitoring for a small wastewater system	3	7	D
41219	Relate wastewater treatment processes and collection system performance to effective wastewater treatment	3	15	NEW
41228	Analyse wastewater treatment processes	4	18	NEW
41229	Manage wastewater effluent application to the receiving environment	4	10	NEW
41230	Operate and control waste stabilisation pond systems	4	10	NEW

Engineering and Technology > Water Industry > Water - Generic

ID	Title	Level	Credit	Review Category
17871	Describe safe practices when working with hazards in small drinking-water and wastewater systems	3	5	D
17874	Demonstrate knowledge of basic science theory relating to water	3	6	C
19200	Demonstrate knowledge of, and apply, mathematics in the water industry	3	4	
41231	Relate foundational science principles and mathematical techniques to water services operations	3	6	
24913	Describe processes, process control, and monitoring, in a drinking-water or wastewater treatment plant	4	5	D
24917	Demonstrate knowledge of quality management in water and wastewater treatment plants	4	5	D
30005	Monitor and report on assets and describe operational costs for a water or wastewater treatment plant	4	4	D
30007	Oversee contractors and visitors on a water or wastewater treatment plant site	4	6	D
30008	Describe pathogens, diseases, and their control in water treatment	3	5	D

ID	Title	Level	Credit	Review Category
41232	Outline treatment processes and shared responsibilities for water services in Aotearoa New Zealand	3	3	NEW
41233	Contribute to a healthy and safe water services environment	3	4	NEW
41234	Outline the protective measures that guide water extraction and discharge practices	3	6	NEW
41235	Implement treatment process requirements in water services to protect people, communities, and the environment	4	6	NEW
41236	Apply science principles to operate and control water services treatment operations	4	10	NEW
41237	Apply mathematical techniques to operate and control water services treatment operations	4	5	NEW

Engineering and Technology > Water Industry > Water Treatment

ID	Title	Level	Credit	Review Category
17891	Describe quality sampling techniques and programme design for a water treatment site	4	5	C
41239	Carry out sampling, testing, and reporting of drinking water	3	5	
17894	Demonstrate knowledge of surface water and groundwater sources	4	7	D
24950	Operate and report on a water treatment plant	4	10	D
29963	Demonstrate knowledge of and carry out water treatment plant maintenance work under supervision	3	5	D
29964	Describe treatment processes for drinking-water treatment	3	5	D
29965	Demonstrate knowledge of small drinking-water systems	3	5	D
29966	Demonstrate knowledge of treated drinking-water supply processes and describe critical control points	4	20	D
29981	Describe and operate abstraction and pre-treatment processes in drinking-water treatment	4	12	C
41242	Operate and control pre-treatment processes for drinking water	4	10	
29982	Describe and operate chlorine disinfection processes in drinking-water treatment	4	12	C
41243	Operate and control chlorination processes for drinking water	4	15	
29983	Describe and operate clarification processes in drinking-water treatment	4	10	C
41244	Operate and control clarification processes for drinking water	4	10	
29984	Describe and operate coagulation and flocculation processes in drinking-water treatment	4	12	C
41245	Operate and control coagulation and flocculation processes for drinking water	4	15	
29985	Describe and operate ozone disinfection processes in drinking-water treatment	4	8	D

ID	Title	Level	Credit	Review Category
29986	Describe and operate fluoridation processes in drinking-water treatment	4	6	C
41246	Operate and control fluoridation processes for drinking water	4	10	
29987	Describe and operate inorganics control processes in drinking-water treatment	4	12	D
29988	Describe and operate media filtration processes in water treatment	4	16	D
29989	Describe and operate membrane filtration processes in drinking-water treatment	4	12	D
29990	Describe and operate pH and alkalinity control processes in drinking-water treatment	4	8	D
29991	Describe and operate organics control processes in drinking-water treatment	4	12	D
29992	Describe and operate ultraviolet disinfection processes in drinking-water treatment	4	8	D
29996	Demonstrate knowledge of and apply principles of water safety planning for a small drinking-water system	3	5	D
29997	Operate and maintain a small drinking-water system	3	8	C
41247	Operate and control an onsite drinking water supply system	3	10	
29999	Undertake sampling and site testing procedures for drinking-water treatment	4	6	D
30000	Describe and operate waste management processes in water treatment	4	8	D
41240	Relate drinking water treatment processes and distribution system performance to safe drinking water supply	3	15	NEW
41241	Control source water abstraction for drinking water	4	12	NEW
41248	Operate and control non-chlorine disinfection processes for drinking water	4	15	NEW
41249	Operate and control filtration processes for drinking water	4	15	NEW
41250	Analyse drinking water treatment processes	4	18	NEW
41251	Operate and control drinking water treatment plant operations	4	20	NEW

Engineering and Technology > Water Industry

ID	Domain	Title	Level	Credit	Review Category
17890	Water Treatment	Undertake sampling and site analysis for water treatment	3	6	C
29998		Undertake sampling and water quality monitoring for a small drinking-water system	3	7	C
41238	Water - Generic	Prepare and collect water samples for drinking and non-potable waters	3	3	
31933	Wastewater Treatment	Demonstrate knowledge of risks and risk management in wastewater treatment plants	4	10	C
41226	Water - Generic	Manage operational risk and safety controls in a water services treatment environment	4	8	

ID	Domain	Title	Level	Credit	Review Category
29959	Wastewater Treatment	Demonstrate knowledge of the regulatory framework relevant to wastewater treatment	4	4	C
29994	Water Treatment	Demonstrate knowledge of the regulatory framework relevant to drinking-water supply	4	5	C
33013		Demonstrate knowledge of the legislative framework relevant to small drinking-water systems	3	5	C
41225	Water - Generic	Outline compliance requirements in water services to support public health safety	3	3	