

41240

Relate drinking water treatment processes and distribution system performance to safe drinking water supply

Kaupae Level	3
Whiwhinga Credit	15
Whāinga Purpose	This skill standard is for people who are intending to work as a drinking water treatment operator in an operational drinking water treatment environment. People with this skill standard can interpret drinking water source characteristics, and relate treatment processes and distribution system performance to drinking water quality and safe supply. They can recognise routine operational conditions and identify common factors influencing treatment effectiveness. This skill standard is designed to develop whole-system understanding of drinking water treatment operations, from source through treatment and distribution. This skill standard aligns with the New Zealand Certificate in Water Services (Level 3) with strands in Drinking Water, and Wastewater [Ref: 5674] and may also contribute to other water services industry credentials.

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Interpret drinking water source characteristics to determine treatment requirements.	a. Identify common drinking water sources and describe key water quality characteristics relevant to treatment.
	b. Relate drinking water source characteristic to treatment requirements.
2. Relate drinking water treatment processes to drinking water quality outcomes.	a. Identify common drinking water treatment stages and their purpose within a treatment system.
	b. Describe how combined treatment processes influence water quality outcomes.
	c. Determine common limitations of treatment process and relate these to risks for drinking water quality outcomes.
	d. Interpret routine operational checks and observations used to confirm treatment performance.

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
3. Relate water distribution system performance to safe drinking water supply.	a. Identify drinking water distribution system components, function, and interrelationships.
	b. Determine how distribution system performance and common issues influence safe delivery of treated drinking water supply.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

Evidence must demonstrate understanding of routine drinking water treatment and distribution processes through identification, explanation, and interpretation of drinking water treatment system configurations and system behaviour.

Evidence must be drawn from operational documentation, such as process descriptions, site schematics, water quality results, monitoring records, standard operating procedures, or simulated plant data relevant to drinking water treatment operations.

Simulated workplace environments may be used. Where a simulated environment is used, it must enable valid assessment and support transfer of competence to an actual workplace.

Definitions

Drinking water treatment system configurations include different source types, process arrangement and operational contexts relevant to New Zealand water services operations.

Operational requirements refer to the documented and embedded ways of working that govern how activities are planned, performed, monitored, and controlled in the workplace to ensure safe, consistent, and compliant operations.

Simulated workplace environments (for assessment purposes) refer to a controlled, authentic setting that replicates workplace conditions to enable learners to demonstrate skills and competencies. This may include physical or digital simulations, provided they reflect realistic tasks, interactions, and constraints.

Water services refer to industries responsible for working on or around water supplies, networks, plants, and systems.

Ngā momo whiwhinga | Grades available

Achieved.

Ihirangi waitohu | Indicative content

- Drinking water sources e.g. springs, dams, impoundments, boreholes, rivers, lakes
- Water source characteristics and implications for treatment, such as coagulation and flocculation, filtration, and disinfection.
- Drinking water treatment stages and processes including purpose, benefits and limitations.
- Consequences of sub-optimal treatment performance and appropriate operational actions to address identified issues.
- Operational checks and observations used to confirm treatment performance.
- Drinking water distribution systems and components including purpose, benefits and limitations.
- Relevant legislation, regulations, and operational requirements.

Rauemi | Resources

Legislation, regulations and/or industry standards relevant to this skill standard include, but are not limited to:

- Health and Safety at Work Act 2015 - [Health and Safety at Work Act 2015 | WorkSafe](#).
- Drinking Water Quality Assurance Rules - [Drinking Water Quality Assurance Rules](#).
- Water Services (Drinking Water Standards for New Zealand) Regulations 2022 - [Water Services \(Drinking Water Standards for New Zealand\) Regulations 2022 \(SL 2022/168\) – New Zealand Legislation](#).
- Water Services Act 2021 - [Water Services Act 2021 No 36 \(as at 03 September 2024\), Public Act Contents – New Zealand Legislation](#).
- Hazardous Substances and New Organisms Act 1996 - [Hazardous Substances and New Organisms Act 1996 No 30 \(as at 05 April 2025\), Public Act Contents – New Zealand Legislation](#).
- Resource Management Act 1991 - [Acts and Bills | Ministry for the Environment](#).

Pārongi Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Energy and Infrastructure Industry Skills Board
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Engineering and Technology > Water Industry > Water Treatment
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0120

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	28 May 2026	N/A
Kōrero whakakapinga Replacement information	N/A		
Rā arotake Planned review date	31 December 2032		

Please contact Energy and Infrastructure Industry Skills Board at qualifications@energyinfra-skills.nz if you wish to suggest changes to the content of this skill standard.