

41227**Operate and control wastewater treatment plant operations**

Kaupae Level	4
Whiwhinga Credit	20
Whāinga Purpose	This skill standard is for people operating wastewater treatment plants. People with this skill standard have the skills to operate and control wastewater treatment plant operations, including the use of process control systems to meet regulatory, consent, and operational requirements. This skill standard aligns with the New Zealand Certificate in Wastewater Treatment Operations (Level 4) with optional strands in Activated Sludge, Effluent Disinfection, Fixed Growth Reactor, Separation, Sludge Treatment, and Ponds [Ref: 5673] and may also contribute to other credentials for the water services industry.

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

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Operate wastewater treatment plant processes.	a. Describe and trace plant-specific wastewater sources, influent characteristics, and flow paths through the treatment process.
	b. Operate wastewater treatment processes, including inflow, storage, distribution, and outflow to maintain required process performance.
	c. Interpret the relationship between wastewater levels, pressure, and flow to support effective process control and operational decision-making.
	d. Control wastewater treatment critical control points to meet resource consent, regulatory, and treatment process requirements.

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
2. Control wastewater treatment plant operations.	a. Evaluate process performance of treatment plant, including flow, level, pressure and trend indicators using system monitoring and control technologies.
	b. Initiate corrective actions in response to monitoring and control system alarms, in accordance with operational requirements.
3. Inspect wastewater treatment plant and equipment.	a. Inspect wastewater treatment plant and equipment in accordance with plant and operational requirements.
	b. Identify, document, and report inspections, faults, wear, or abnormal operating conditions in accordance with operational requirements.
4. Maintain wastewater treatment plant and equipment.	a. Carry out preventative and responsive maintenance activities in accordance with operational requirements.
	b. Isolate, recommission and return plant and equipment to service in accordance with operational requirements.

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

Assessment specifications:

Evidence for assessment of this skill standard must be taken from the wastewater treatment plant in which the learner works.

Definitions

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.

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**Wastewater treatment plant coordination**

- Sources, collection, treatment, and discharges.
- Critical control points and corrective actions.
- Compliance sampling, testing, reporting and verification.
- Investigations and remedies – combination of regulatory rules, accredited laboratory testing, risk planning, monitoring, and incident response frameworks.
- Monitoring, inspection, and investigation processes.

Process monitoring and control

- Process variables, set points, deviations, and rates of change.
- Process monitoring such as data acquisition, alarms, trends, plant status, and reporting.
- Operator interfaces (automated, manual, and supervisory control).
- Process control
 - Integration of sensors, actuators, PLCs, and proprietary monitoring systems
 - Measuring instruments and signal processing
 - Digital and analogue sensors
 - Instrumentation symbols, process lines, and interconnection references
 - Verification and calibration of monitoring equipment.

Rauemi | Resources

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

- Local Government (Water Services) Act 2024 - [Local Government \(Water Services Preliminary Arrangements\) Act 2024 No 31 \(as at 27 August 2025\), Public Act Part 1 Preliminary provisions – New Zealand Legislation](#).
- National Wastewater Environmental Performance Standards - [Discussion-document-National-wastewater-environmental-performance-standards-FINAL.pdf](#).
- Water Services Act 2021 - [Water Services Act 2021, Public Act Contents – New Zealand Legislation](#).
- Resource Management Act 1991 - [Acts and Bills | Ministry for the Environment](#).
- Te Mana o te Wai - [Te Mana o te Wai implementation | Ministry for the Environment](#).
- 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](#).
- Health and Safety at Work (Hazardous Substances) Regulations 2017 - [Health and Safety at Work \(Hazardous Substances\) Regulations 2017 \(LI 2017/131\) \(as at 20 October 2025\) Contents – New Zealand Legislation](#).

Pārongo Whakaū Kouna | 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 > Wastewater 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	This skill standard replaced unit standard 17877.		
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.