40888 Maintain and operate hydrometric stations

Kaupae | Level	5
Whiwhinga | Credit	15
Whāinga | Purpose	This skill standard is for people working in, or seeking skills in, hydrometry and field water monitoring. Learners will be able to assess station performance, carry out repairs, and manage hydrometric data in accordance with NEMS and worksite procedures. This skill standard has been developed to align with the New Zealand Diploma in Field Hydrology (Level 5) [Ref: 2344].

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

Hua o te ako | Learning outcomes	**Paearu aromatawai |** Assessment criteria
1. Inspect hydrometric station infrastructure, instruments and data accuracy.	a. Describe the purpose of hydrometric stations and their role in providing accurate data for hydrological decision-making.
	b. Inspect station infrastructure and instruments for condition, functionality, and compliance with operational standards.
	c. Perform reference checks and compare with recorded data to confirm accuracy and reliability.
2. Perform operational maintenance and action repairs on hydrometric stations.	a. Conduct regular station servicing in line with manufacturer and worksite procedures.
	b. Action repairs and coordinate technical support for complex maintenance tasks.
	c. Identify, document, and address any operational issues, discrepancies, or maintenance requirements.
3. Operate hydrometric stations to retrieve and manage hydrometric data.	a. Download data directly from loggers or remotely via telemetry and verify completeness.
	b. Store gauging results, field observations, and supporting metadata in the required formats and designated databases.

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

Assessment specifications:

Learners/ākonga' evidence must be collected using naturally occurring activities.

All activities and evidence must meet the requirements of worksite procedures, accepted industry practice, legislation and any subsequent amendments.

Providers must give due consideration to embedding ngā kaupapa (principles) o Te Tiriti o Waitangi when designing delivery activities relevant to this standard. These principles are outlined in Guidelines for Providers: Embedding Tirohanga Māori.

Providers must give due consideration to the needs and values of Pacific peoples and other cultural groups when designing delivery activities relevant to this standard, ensuring practices are inclusive and equitable.

Range

Hydrometric data includes climate, water level and rainfall time series data.

Evidence may be collected from a range of hydrometric stations, loggers, sensors and equipment.

Definitions

Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider industries as examples of best practice.

Metadata describes data in detail. It has information about how, when, and by whom certain data was collected and the data format.

Worksite procedures refer to the policies and procedures set out in a verbal or written form by the employer or organisation.

***Ngā momo whiwhinga* |** *Grades available*

Achieved.

Ihirangi waitohu | Indicative content

Inspection

- Hydrometric station types, rainfall, river level, flow.
- Site security, power supply, sensor function, and telemetry.
- Differentiate reference checks vs. logged readings and verify consistency using cross-checks.
- Record inspections, validations, and track outstanding issues.

Routine Maintenance, Repairs and Component Replacement

- Routine tasks, sensor calibration, debris clearance, levelling surveys.
- Scheduled maintenance according to station type and environmental conditions.
- Maintenance tasks – clean or replace sensors, desiccants, batteries, solar panels, and telemetry hardware.
- Troubleshoot field equipment failures using proper equipment and safety procedures.
- Maintenance reports using approved templates.

Data Retrieval and Management

- Data retrieval via downloads or telemetry.
- Data validation of gaps, spikes, and time drift; correct errors.
- Telemetry software and time-series databases for access and visualisation.
- Standard file formats, naming conventions, and metadata procedures for traceability.

Rauemi | Resources

Legislation and codes of practice relevant to this skill standard include but are not limited to:

- NZHS NZHS | The New Zealand Hydrological Society.
- Health and Safety at Work Act 2015, Resource Management Act 1991, Public Works Act 1981, Resource Management (National Environmental, Standards for Freshwater) Regulations 2020 New Zealand Legislation.
- Freshwater Farm Plans Freshwater farm plans | Ministry for the Environment.
- National Environmental Monitoring Standards (NEMS) National Environmental Monitoring Standards » National Environmental Monitoring Standards (NEMS).
- National Policy Statement for Freshwater Management 2014 National Policy Statement for Freshwater Management | Ministry for the Environment.

and any subsequent amendments or replacements.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa | Standard Setting Body	Muka Tangata – People Food and Fibre Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai | DASS classification	Engineering and Technology > Water Industry > Field Hydrology
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga | CMR	0052

Hātepe | Process	**Putanga |** Version	**Rā whakaputa |** Review Date	**Rā whakamutunga mō te aromatawai |** Last date for assessment
Rēhitatanga | Registration	1	25 September 2025	N/A
Kōrero whakakapinga | Replacement information	This skill standard replaced unit standard 28800.		
Rā arotake | Planned review date	31 December 2030		

Please contact Muka Tangata – People Food and Fibre Workforce Development Council at qualifications@mukatangata.nz to suggest changes to the content of this skill standard.