

Drinking Water Protection Conference

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Te Whakatauākī a Taumata Arowai

Ko te wai ahau, ko ahau te wai.
He whakaaturanga tātau nō te wai.
Ko te ora te wai ko te ora o te
tangata.
He taonga te wai me tiaki.
Ko wai tātou.
Ko wai tātou.

I am water, water is me.
We are reflections of our water.
The health of the water is the health of
the people.
Water is a treasure that must be
protected.
We are water.
Water is us.



Scope of this presentation

- Drinking Water Quality Assurance Rules – Approach
- Context for backflow protection
- Current legislative context
- Drinking Water Quality Assurance Rules – Backflow Detail
- Industry Resources
- Challenges for the Future



Drinking Water Quality Assurance Rules – Approach

Focus on Proactive Protection

Distribution zone rules for networked supplies:

- **Small** networked supplies serve 26 – 100 people
- **Medium** networked supplies serve 101-500 people
- **Large** networked supplies serve >500 people

Backflow rules for small, medium and large networked supplies

Large networked supply rules for:

- New and repaired water mains hygiene procedures
- Facilities operation, maintenance and disinfection – particularly important for reservoirs
- Residual disinfection, disinfection by-product, and plumbosolvent metal rules
- Microbiological monitoring rules



Context for backflow protection

Risks from backflow

No consistent recording of backflow incidents in New Zealand

- Incidents tend to be transient and localised

USEPA Report 27/9/2001 - [Potential Contamination Due to Cross-Connections and Backflow and the Associated Health Risks \(epa.gov\)](#)

- 459 documented incidents

American Backflow Prevention Association website.

<https://www.abpa.org/page/Incidents>

New Zealand incidents

- Rural - water troughs linked to networks
- DIY plumbing issues
- Caustic soda drawn into a supply



Historical legislative context

Prior to 2007 – No legislation, backflow prevention voluntary

- 1993 – Public Health Grading of Community Drinking-Water Supplies formally asked questions regarding backflow.

Health (Drinking Water) Amendment Act 2007

- Section 69ZZZ (1) This section applies **if** ... (2) A networked supplier **may**, (a) **if** the supplier considers it desirable or necessary ...
- 2003 – Public Health Grading of Community Drinking-Water Supplies updated

Current legislation

Current legislative context

Water Services Act 2021

- Section 27 – Duty now mandatory
- If a drinking water supply includes reticulation, the drinking water supplier must ensure that the supply arrangements protect against the risk of backflow

Drinking Water Quality Assurance Rules

- Backflow rule for Small supplies and Medium Supplies
- Backflow included in Drinking Water Acceptable Solutions
- 4.11.1 D3 Backflow protection rules – applies for large supplies (above 500 population)

Water Services Act 2021 - Options

s27(2) If there is a risk of backflow in a reticulated drinking water supply, the drinking water supplier may—

- a) install a backflow prevention device and require the owner of the premises to reimburse the supplier for the cost of installation, maintenance, and ongoing testing of the device; or
- b) require the owner of the premises to install, maintain, and test a backflow prevention device that incorporates a verifiable monitoring system in accordance with any requirements imposed by the supplier



Opportunities

Drinking Water Safety Plans:

- Backflow prevention to be addressed as part of the DWSP

Notifications:

- Requirement to notify Taumata Arowai if there is a reasonable likelihood that drinking water is or may be unsafe

Working with Territorial Authority building departments:

- Confirming the backflow devices required under the Building Act
- Confirming that appropriate testing is undertaken
- Managing change of use

Drinking Water Quality Assurance Rules – Backflow Detail

Small Supplies – Rule D1.2

The drinking water supplier must assess the distribution system for backflow risk at least every 2 years and:

1. any point of supply connections, fittings or other places found to be at risk for backflow must be recorded along with the potential hazard(s); and
2. any point of supply connections found to be at risk for backflow must have a suitable backflow prevention device fitted; and
3. any cross connections that are identified must be removed

Medium Supplies – Rule D2.7

An assessment of the distribution system for backflow risk must be performed annually by the drinking water supplier and:

1. any point of supply connections, fittings or other places found to be at risk for backflow must be recorded along with the potential hazard(s); and
2. any point of supply connections found to be at risk for backflow must have a suitable backflow prevention device fitted; and
3. all point of supply testable backflow prevention devices installed to protect the distribution system must be inspected and tested annually by a suitably trained and qualified person and remediated if found to be faulty; and
4. any cross connections that are identified must be removed

Large Supplies – Rule D3.1

Drinking water suppliers must prepare and implement a backflow prevention programme to protect their distribution system against the risk of backflow



Large Supplies – Rule D3.2

Periodic surveys of backflow risks to a distribution system to determine medium and high-risk sites must be undertaken by the drinking water supplier at least once every five years to assess the adequacy of backflow protection across the distribution system

- High-risk sites are not limited to buildings e.g. could consider public parks with irrigation systems, (Wellington Water raised hydrants and scour valves in the rail corridor)
- Surveying where devices are already installed does not necessarily identify high-risk sites

Large Supplies – Rule D3.3

Where backflow requirements at a point of supply are deemed inadequate, the drinking water supplier must notify the local authority with details of the situation and risk, determine the backflow device that should be installed at the point of supply and ensure that it is installed in a timeframe commensurate with the risk but as soon as reasonably practicable

- The water supplier may also be the local authority
- Rules is written to cover private supplies and to take account of future reform

Large Supplies – Rule 3.4

Testing of all testable backflow prevention devices installed at a point of supply specifically to protect the network (generally boundary devices)⁶⁴ must be undertaken, at least annually

- Consider how this will be demonstrated
- Challenges if there is a boundary backflow device installed under the Building Act
- Pressure issues and poor public perception if there are two devices in series



Large Supplies – Rule 3.5

A drinking water supplier must maintain a register of the location of all point of supply testable backflow protection devices, device types, assessed risk level and the results of testing of all devices

- Register will be a living document, reflecting changes in risk levels identified through the periodic surveys



Large Supplies – Rule D3.6

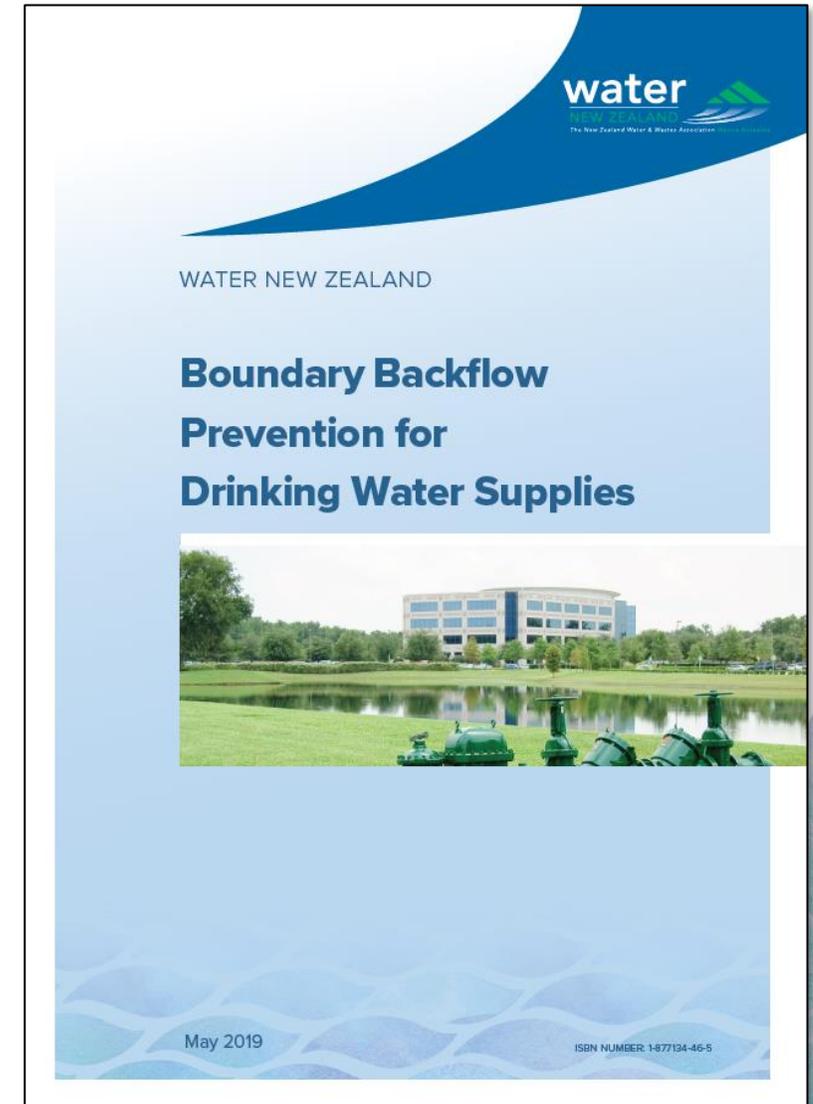
Access to a water network through use of a standpipe is not permitted except by Fire and Emergency New Zealand, other emergency services, the drinking water supplier, or authorised contractors to the drinking water supplier where it is reasonably necessary to access the network for the operation of the drinking water supply



Industry resources

Backflow risk assessment

- Example Risk Assessment in Appendix 1
- Best publication currently available
 - Still refers to Health Act 1956
 - Still refers to PHRMPs
 - Ideally future updates will reflect legislative changes
- Risk assessment challenges (e.g. residential businesses, DIY plumbing)
- Alternative water supplies (e.g. rainwater)



Australian/New Zealand Standards

AS/NZS 2845.1:2022

AUSTRALIAN/NEW ZEALAND STANDARD

Water supply – Backflow prevention devices

Part 1: Materials, design and performance requirements

Superseding AS/NZS 2845.1:2010

AS/NZS 2845.1:20

AS/NZS 2845.3:2020



Australian/New Zealand Standard

Water supply – Backflow prevention devices

Part 3: Field testing and maintenance of testable devices

Unit Standards

Both NZQA Unit Standards were due for review by 31 December 2022

NZQA unit standard

23847 version 2
Page 1 of 4

Title	Prepare to test, and inspect and test, water supply backflow prevention devices		
Level	3	Credits	4

NZQA unit standard

23848 version 2
Page 1 of 3

Title	Describe suitability, installation, and testing of water supply backflow prevention devices, and fault identification		
Level	3	Credits	4

Challenges for the future

What we are doing right now

Water Services Act 2021

- Section 27 – Duty now mandatory for registered supplies
- If a drinking water supply includes reticulation, the drinking water supplier must ensure that the supply arrangements protect against the risk of backflow

Drinking Water Quality Assurance Rules – in force from November 2022



Drinking Water Safety Plans (DWSP)

- Registered drinking water supplies were required to provide us with a DWSP for the supplies they manage by 15 November 2022, unless using an Acceptable Solution.
- Will begin to review DWSPs on a prioritised basis in accordance with our Compliance, Monitoring and Enforcement Strategy (CME).
- CME: [taumataarowai.govt.nz/about/strategy and performance](https://taumataarowai.govt.nz/about/strategy-and-performance)

Compliance Monitoring and Enforcement Strategy

Key concepts	Taumata Arowai Whakapapa	We are guided by our whakapapa in all our regulatory interactions
	Duty of care	Suppliers have a responsibility to supply safe drinking water
	Risk-based approach	We use intelligence and risk analysis to identify and understand risk to prioritise where to focus our resources
	Te Mana o te Wai	Taumata Arowai and suppliers need to give effect to Te Mana o te Wai

- Sets out clearly what drinking water suppliers and communities can expect from Taumata Arowai, as the regulator, up to 2025.
- Outlines our priorities and regulatory approaches

Our regulatory approach

- A balanced regulatory approach, adopting a mix of responsive and proactive regulatory activities
- Our focus will be to incentivise good practice behaviour changes in the drinking water sector and to disincentivise behaviours that do not support effective risk management or increase the likelihood of harm to consumers from unsafe drinking water
- Regulatory interventions will be proportionate and directed to address the risk and nature of the behaviours of regulated parties. Our decision to intervene will be based on the need to:
 - protect people and communities from serious risk to their health due to the quality or quantity of drinking water being supplied, and
 - support the water services sector to improve its performance and environmental outcomes

Unclassified

Pātai?