

Drinking Water Quality Assurance Rules Guidance

How the Rules Work

Introduction

The Drinking Water Quality Assurance Rules (“Rules”) have been prepared by the Water Services Authority – Taumata Arowai (the Authority) in accordance with section 49 of the Water Services Act 2021, including the public consultation requirements set out in section 53 of the Act.

The Rules are secondary legislation and are disallowable by the House of Representatives under the Legislation Act 2019.

1.1 Rule objectives

These Rules primarily impose requirements relating to drinking water supplier duties to:

1. supply safe drinking water.¹
2. ensure that drinking water complies with the Water Services (Drinking Water Standards for New Zealand) Regulations 2022.²

Aspects of the Rules also relate to drinking water supplier functions or duties, under other provisions in Part 2 of the Act.

1.2 Effective date of the Rules

The Rules came into force on 14 November 2022 and the amendments in this revised version are in force from ?? 2026.

1.3 General guidance

The Rules set out minimum compliance requirements, and drinking water suppliers may use or undertake additional measures, including the management of risks specifically identified in relation to their supplies, to ensure that water provided to consumers is safe to drink.

Definitions of technical terms and abbreviations used in the Rules are set out in the Interpretations section (rule 3). Unless otherwise defined in rule 3, terms defined in the Act that are used in the Rules have the same meaning as in the Act.

These Rules cover water quality operational requirements from source water abstraction to the point of supply to a consumer, typically at the boundary toby. In most situations, the Building Act 2004 regulates water supplies beyond this point.

Compliance with the Rules is intended to ensure that water provided by drinking water suppliers does not exceed the MAVs for key determinands, as set out in the Drinking Water Standards.

¹ Water Services Act 2021, section 21.

² Water Services Act 2021, section 22.

Where MAVs cannot be (or are not) used to measure compliance, treatment efficacy is used as the surrogate criteria for demonstrating compliance. When surrogate criteria are used, the Rules specify operational requirements. Compliance with these provides confidence that a treatment barrier is working effectively.

FAC and compliance with filter performance parameters such as turbidity are examples of surrogate criteria. These surrogate criteria have the important benefit of being able to be measured frequently or continuously on-site so that near-real time feedback about treatment performance is available.

The Rules do not set quality requirements for bottled water or water used solely for industrial or agricultural purposes as these are not covered by the Act.

For people with certain medical conditions, or for uses of water for purposes other than drinking (e.g. kidney dialysis), additional or other water quality criteria may apply.

1.4 Components of a drinking water supply

A drinking water supply comprises the infrastructure and processes used to abstract water from a source, and to store, treat, transmit or transport drinking water to a point of supply for consumers or other drinking water suppliers. It will generally have one or more of each of the following components:

1. source water abstraction
2. water treatment plant
3. distribution system.

Through the registration process, the Authority allocates unique identifier numbers to registered water supplies, sources, treatment plants and distribution zones.

1.5 Categories of drinking water supply

The Rules have been prepared for the following drinking water supply categories.

1. **Very Small Communities**

Drinking water supplies of any configuration or arrangement (excluding domestic self-supplies) that provide drinking water to a population of up to 25 people. In circumstances when the population supplied fluctuates, the population supplied may increase to up to 50 people for up to 60 days in any 12-month period..³

2. **Networked Supplies**

Drinking water supplies that provide drinking water via a distribution system at a pressure and volume to meet consumer demand, or at a restricted flow and volume.

These supplies may include storage facilities within the network to buffer demand.

³ *Removed*

The Rules have been prepared for Networked Supplies with the following population sizes:

- a) Small 26 – 100 people. Varying Population module requirements can apply to this drinking water supply category.
- b) Medium 101 – 500 people. Varying Population module requirements can apply to this drinking water supply category.
- c) Large >500 people.

3. Self-supplied Buildings

Self-supplied Buildings are water supplies (excluding domestic self-supplies) which provide drinking water to up to ten buildings on one site (within the boundaries of one property, or within the boundaries of two or more properties with common ownership arrangements) and provide water to more than 25 people.

The Rules have been prepared for Self-supplied Buildings with the following population sizes:

- (a) Small 26 – 100 people. Varying Population module requirements can apply to this drinking water supply category.
- (b) Medium 101 – 500 people. Varying Population module requirements can apply to this drinking water supply category.
- (c) Large >500 people.

4. Water Carrier Services

Drinking water supplies that involve the transport of drinking water in a vehicle or vessel with a water tank (e.g. a truck, trailer, or rail wagon) and supply to consumers or other drinking water suppliers, often to a storage tank on a property. Typically, Water Carrier Services provide drinking water to houses that have their own supplies but need the quantity of stored water to be augmented. Water Carrier Services can also augment other drinking water supplies, particularly during droughts and emergencies and provide water to planned events.

Water Carrier Services that fill tankers from a supply that provides water specifically for Water Carrier Services, must ensure that supply is separately registered and complies with the Water Carrier Supplies Rules.

5. Water Carrier Supplies

Water Carrier Supplies are drinking water supplies that provide water specifically to fill tanker vehicles that are owned or operated by a Water Carrier Service.

6. Community Drinking Water Stations

Community Drinking Water Stations are drinking water supplies that provide drinking water from a single point of supply to a community who collect the water in containers.

Public taps or container filling stations that are connected to a Networked Supply (e.g., community taps that provide water which is chlorinated and then de-chlorinated) are not considered to be Community Drinking Water Stations.

1.6 Structure of the Rules

The Rules are structured as 'modules', with the main modules covering general rules, source water, treatment systems and distribution systems. Additional modules are provided for some specific drinking water supply categories or situations.

The modules and module codes are:

1. **General Rules Module (G)** – including rules that outline rules reporting requirements, sampling and monitoring requirements, capability and hygiene requirements and continuous monitoring requirements.
2. **Very Small Communities Rules Module (VSC)** – includes microbiological monitoring requirements and additional requirements for when population limits are exceeded.
3. **Source Water Rules Modules (S1, S2, S3)** – three complexity levels dependant on the size of the supply, covering rules for source water sampling.
4. **Treatment Rules Modules (T1, T2, T3)** – three complexity levels dependant on the size of the supply, covering rules for bacterial compliance, protozoal compliance, chemical compliance and cyanotoxin compliance.
5. **Distribution System Rules Modules (D1, D2, D3)** – three complexity levels dependant on the size of the supply, covering rules for pressure monitoring, backflow prevention, preventing recontamination of stored water, hygiene practices for maintenance and upgrades, monitoring FAC, disinfection by-products and microbial water quality.
6. **Water Carrier Services Rules Module (WC)** – including Rules which cover the transport of drinking water.
7. **Varying Population Rules Module (VP)** – covers additional monitoring requirements that must be met when the usual base population of a drinking water supply increases for limited periods of time.

The following table sets out the Rules modules and complexity levels. Subsequent sections set out which modules each supply category must demonstrate compliance against.

Table 1. Rules Modules

G		
VSC		
S1	S2	S3
T1	T2	T3
D1	D2	D3
WC		
VP		

1.7 Drinking water supply categories and Rules modules

Table 2 below outlines the drinking water supply categories, and the Rules modules that drinking water suppliers must demonstrate compliance against.

Table 2. Categories of drinking water supply and rules that apply to them.

Categories of drinking water supplies	Rules modules that compliance is demonstrated against
1. Very Small Communities	
0 – 25 people and 26 – 50 people for up to 60 days in any 12-month period (includes flexibility for exceeding population limits)	VSC
2. Networked Supplies	
Small (26 – 100 people)	G + S1 + T1 + D1 + VP
Medium (101 – 500 people)	G + S2 + T2 + D2 + VP
Large (>500 people)	G + S3 + T3 + D3
3. Self-supplied Buildings	
Small (26 – 100 people)	G + S1 + T1 + VP

Categories of drinking water supplies	Rules modules that compliance is demonstrated against
Medium (101 – 500 people)	G + S2 + T2 + VP
Large (>500 people)	G + S3 + T3
4. Water Carrier Services	
Any population size	G + WC
5. Water Carrier Supplies	
Any population size	G + S1 + T1
6. Community Drinking Water Stations	
Any population size	G + S1 + T1

1.8 Application of the Rules modules

The Rules take a graduated approach to take account of risk scale and complexity. Rules for level 1 and level 2 supplies are more simple and do not include treatment options. Rules for level 3 supplies are necessarily more complex but include treatment options that water suppliers can select.

General Rules

The General Rules module sets out requirements that are relevant to the activities that water suppliers undertake to demonstrate compliance. They cover the areas of reporting compliance data to the Authority, sampling and monitoring, capability, hygiene and continuous monitoring.

Very Small Community

Rules for Very Small Communities are very simple and only require monitoring of water quality but with provisions situations

Level 1 and Level 2 Rules

The rules for these supplies set out source water monitoring requirements treatment requirements and monitoring requirements. They are based on the need to provide barriers to contaminants and don't provide water suppliers with treatment options though if suppliers choose to use options that are provided in the level 3 rules, they can elect to demonstrate compliance against those rules.

Level 3 Source water classes

The interpretation section of the Rules sets out four source water classes, based on the likelihood of microbiological contamination. Water suppliers are required to identify the class of water they are using, document this in writing and report the class of water they are using to the Authority.

This is important because water supplies are required to demonstrate compliance against different rules depending on the class of their source water.

Class A source waters are of the highest quality and consist of groundwater abstracted from a depth of greater than 30 metres via a sanitary bore head. Evidence has indicated that these supplies are highly unlikely to be contaminated with bacteria, protozoa or viruses. For this reason barriers to these contaminants are not required for supplies using Class 1 source waters. They are however required to be treated with chlorine.

Class B source waters are of the highest quality and consist of groundwater abstracted from a depth of greater than 30 metres via a sanitary bore head. Evidence has indicated that these supplies are highly unlikely to be contaminated with bacteria or protozoa but evidence about contamination with viruses has not been collected. For this reason a barrier to bacteria and viruses is required but a barrier is not required for protozoa.

These supplies are also required to be treated with chlorine.

Class C source waters are those that are not expected to have high levels of animal or human faecal contamination but is still likely or possible. Bacterial, virus and protozoa barriers are required for these supplies.

Class D source waters are those that are likely to be contaminated with animal and/or human waste and are required to have barriers to bacteria, viruses and protozoa (4-log).

Class D supplies can be designated as Class C supplies if the water supplier has a written assessment prepared by a suitably qualified and experienced person which indicates that the source water has a low level of protozoa contamination.

Level 3 Source Water Rules

The level 3 source water rules are divided into three parts, common rules, Class A and B source water rules and Class C and D source water rules. The rules outline the determinands that need to be monitored to provide evidence of the quality of the source water being used for the supply. This is particularly important for the Class A and B source waters as treatment barriers for bacteria, viruses and protozoa are not required for Class A and protozoa for Class B. Class C and D source waters include cyanobacterial rules which take an escalating step-wise approach to the identification of cyanobacteria and cyanotoxins.

Level 3 Bacteria/Virus Rules

The level 3 bacteria/virus rules include two parts, common rules requiring water to have chlorine added, which all supplies must follow and treatment rules for supplies using Class B, C and D source waters. The rules for those classes include 3 options for providing a disinfection barrier for bacteria and viruses, chlorine, UV and ozone.

Level 3 Protozoa Rules

The level 3 protozoa rules include common rules which set the minimum protozoa treatment levels in terms of log reduction that are required for each class of water and the treatment process (and levels of log treatment) that can be used.

The rules cover four filtration processes and two disinfection processes. The total log treatment required can be achieved by adding a filtration process and a disinfection process.

Level 3 Chemical Rules

The level 3 chemical rules require water suppliers to determine the chemicals that they are adding to their supply or are formed in the treatment process and to monitor those chemicals in treated water.

Level 3 Cyanobacteria Rules

The level 3 cyanobacteria rules set out monitoring requirements for water leaving a treatment plant in situations where cyanobacteria have been identified in the supply source water or a treatment process is used to remove cyanotoxins from the source water.

Level 3 Distribution Rules

The distribution rules set out requirements in the areas of pressure monitoring, backflow prevention, watermain repair, facilities operation, residual disinfection monitoring, disinfection by-product monitoring, plumbosolvent metal monitoring and microbiological monitoring.

Selecting the right rules for each supply

Drinking water suppliers must select the Rules modules that apply to each of their registered supplies based on the category that best fits their drinking water supply. Drinking water suppliers must demonstrate compliance against those Rules modules for each registered supply.

For example, if a networked supply serves 10,000 people, level 3 rules must be used for all source, treatment, and distribution zone compliance, regardless of the number of people served by any single source, treatment plant, or distribution zone. If a distribution zone in a community of 10,000 people serves only 450 people, that zone must still demonstrate compliance against the level 3 rules.

Where population thresholds are provided, the population supplied should be calculated on the base population, the population that is normally supplied drinking water regardless of any seasonal increases.

Any drinking water supplier can elect to demonstrate compliance with a higher level of source, treatment, or distribution zone Rules module if they choose. For example, a drinking water supply which is required to comply with the level 2 Rules modules for source, treatment, and distribution zone, may choose to demonstrate compliance against the level 2 Rules modules for source and distribution zone, but the level 3 Rules module for treatment if that is more suitable for them. In that case, the Rules modules that they would demonstrate compliance against would be **G + S2 + T3 + D2 + VP**.

If a drinking water supplier chooses to comply with a higher-level Rules module e.g., **T3**, they must comply with all of the rules in that module. It is up to each water supplier to determine whether they will demonstrate compliance against a higher-level Rules module, and over which compliance periods.

1.9 Compliance and reporting

Drinking water suppliers only need to demonstrate compliance against the Rules for periods when a drinking water supply is operating.

Example 1: A bore may only be used during the summer period when there is a high level of demand. The source water requirements for that bore would only need to be demonstrated for the period that the bore is in operation.

Example 2: A treatment plant may be off-line for several reasons, compliance does not need to be demonstrated for the period that the plant is not operating. However, if a treatment plant operates for only part of a compliance period, data/information must be reported for that compliance period.

Example 3: A distribution zone is expected to be in operation continually, even when a treatment plant is not, so demonstration of compliance for the distribution zone will be continual.

Drinking water suppliers must assess their compliance with the Rules and provide a report of compliance to the Authority.

Reporting requirements

Reporting requirements are set out in the Reporting (R) Rules and are based on the Rule modules that drinking water suppliers elect to demonstrate compliance against.

Water suppliers are required to report whether they comply with assurance rules and whether they comply with and the evidence to demonstrate their compliance for monitoring rules.

Sampling frequencies indicate the number of samples that need to be collected over a given time period. Compliance periods are the length of time over which compliance is assessed. For example, if two samples are collected each week and the compliance period is one month, compliance will be assessed for the month over which the samples were collected.

Reporting periods are the intervals over which reporting is required. For example:

1. Suppliers demonstrating compliance against the level 1 Rules have a reporting period of one year and must report a limited set of compliance data to the Authority annually.
2. Supplies demonstrating compliance against level 2 Rules have a reporting period of three months for monitoring rules and must report a limited set of compliance data to the Authority every three months.
3. Supplies demonstrating compliance against the level 3 monitoring Rules have a reporting period of 1 month and must report a limited set of compliance data to the Authority each month.
4. Suppliers demonstrating compliance against level 2 or level 3 assurance rules must report against those rules at the end of each reporting year.

The rules that compliance must be reported against in the above timeframes are set out in the Reporting Rules.

Monitoring Rules

Monitoring Rules are the Rules that must be complied with to demonstrate compliance with the Drinking Water Standards. Monitoring Rules cover determinands and parameters that need to be either continuously monitored or regularly sampled. They have compliance periods associated with them.

One-day compliance periods

Any determinand that is continuously monitored or sampled daily, irrespective of the period of the day that the supply is operating has a compliance period of 24 hours (midnight to midnight). Each compliance report must indicate the number of compliant days in the reporting period. It must also provide a report for each non-compliant day, outlining the reasons for any non-compliance.

Compliance is assessed as the number of days that compliance was achieved during the previous reporting period.

One-month compliance periods

Rules that require weekly or monthly monitoring have a compliance period of one calendar month. Each compliance report must indicate, for the limited set of compliance data, the number of compliant months in the reporting period. It must also provide a report outlining any reasons for non-compliance.

Compliance is reported as the number of months that compliance was achieved during the previous reporting period.

One-year compliance periods

For all other determinands and parameters, compliance is reported annually, except for determinands that are only monitored once every three years or once every five years.

Assurance Rules

Assurance rules cover activities that water suppliers need to undertake, for example the preparation of a backflow prevention programme or a distribution zone sampling plan. Assurance rules are not used to demonstrate compliance with the Drinking Water Standards but indicate whether water suppliers undertake activities that contribute to the provision of safe drinking water. Assurance rules have a compliance period of either 1 month for a limited number of level 3 assurance rules and one year for all other assurance rules. Compliance with assurance rules needs to be reported to the Authority within 20 days of the end of each month if they have a compliance period of one month or 40 days of the end of each reporting year.

Non-Reporting Rules

Some rules are designated as non-reporting rules and water suppliers are not required to report on their performance against those rules, though they are still expected to comply with non-reporting rules.