Water Services Authority
Taumata Arowai

NEW ZEALAND DRINKING WATER QUALITY ASSURANCE RULES INTERPRETATION GUIDE FOR VERY SMALL COMMUNITIES

V1

Contents page

Introduction

If you supply drinking water to a Very Small Community of up to 25 people you have a responsibility under the Water Services Act 2021 (the Act) to ensure the water is safe.

You need to follow the Drinking Water Quality Assurance Rules (the Rules) and notify the Authority if monitoring results, like test results for *E. coli*, exceed a maximum acceptable value set out in the Drinking Water Standards.

The Rules are the minimum requirements for drinking water suppliers. By following the Rules, you will know more about the quality of the water you are supplying. You will also need to consider whether more frequent testing and/or treatment of the water is needed.

You do not need to report to the Water Services Authority–Taumata Arowai (the Authority) unless your testing results show an exceedance in a maximum acceptable value. Laboratories are required to inform you and us if drinking water testing exceeds these standards.

We have developed this guidance to help you understand the parts of the Rules that apply to your supply.

Note: This is a guideline only and does not address every situation that may occur regarding a drinking water supply. It is not intended to be definitive and is not legal advice. Drinking water suppliers are responsible for understanding and complying with their legislative duties. The Authority may review and revise this guidance over time. If you are using a printed copy, please check the website to make sure it is up-to-date.

Is my supply a Very Small Community?

The Rules describes Very Small Communities drinking water supplies as:

> *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.*

Under the Rules, a population is the number of people normally supplied with water, i.e. the number of people in the community who would receive water from the supply when there is not unusually large numbers of people in the community.

If the normal number of people is up to 25 people, even if this number is exceeded every year during special events or holiday periods, the supply is most likely a Very Small Community drinking water supply.

Below are some examples of Very Small Communities.

- Several houses in a community are supplied through a piped network from a water source (e.g. bore, river, stream, spring or lake), possibly via a water treatment plant. The normal resident population is up to 25 people despite an influx during school holidays.
- Sports facilities, community halls and marae that have a stand-alone water supply, if the population is normally up to 25 people.

Reminder: We do not regulate domestic self-supplies. These are stand-alone domestic dwellings that have their own supply of drinking water, including long or short-term rental properties and holiday homes. Situations where a number of houses are separately supplied from a single source, e.g. a number of farmhouses, holiday houses or neighbours using a common source like a spring or a stream, are also not considered Very Small Communities and are not required to follow the Rules. Provision of safe drinking water in these situations is covered by the Building Act 2004.

What happens if my supply's population exceeds 25 people?

As a water supplier, you need to record the number of days that the population exceeds 25 people, but is fewer than 50 people, to make sure the number of days this occurs is less than 60 days in any 12-month period.

If a community event or other activity (e.g. a holiday period or seasonal work group like shearers or fruit pickers) causes the population of your supply to increase to more than 25 people for a short period of time (fewer than 60 days in a 12-month period), your supply will remain a Very Small Community. The Very Small Communities Rules module (VSC) contains rules to deal with these situations (see rules VSC.3 and VSC.4). You still need to ensure the water you supply is safe to drink and may want to put in place some additional measures to maintain safety (keep reading for more information on these additional measures).

Very Small Community Scenario 1.

- A sports event takes place in the community over different times of the year. The total number of people using the water supply reaches a maximum of 45 people in the last 12 months. The population has only exceeded 25 people for 35 days in the last 12 months. Rules VSC.3 and VSC.4 do not apply in this situation.

What happens if my supply's population exceeds 25 people (but not more than 50 people) for more than 60 days?

If your supply exceeds 25 people (but not more than 50 people) for more than 60 days, the relevant Rules modules for Small Supplies apply for the remainder of the calendar year (see rule VSC.3). At the beginning of the next calendar year, you may choose to either continue to follow the VSC Rules module or elect to continue following the relevant Rules modules for Small Supplies. This choice is yours to make.

Very Small Community Scenario 2.

- A supply's population increases to between 35 and 45 people for 30 days. Five months later, the supply's population increases to between 25 and 35 people for 60 days. The population threshold is not exceeded but the time threshold is exceeded and additional requirements in rule VSC.3 apply. The next year the supply owner decides to continue following the relevant Rules modules for Small Supplies as they expect a similar exceedance to occur and wish to avoid the complications of changing their compliance requirements during the calendar year.

  Note: You can find the relevant Rules modules for Small Supplies in Table 2 of the Rules. Your supply could either be a Small Networked Supply or a Self-supplied Building.

What happens if my population exceeds 50 people?

If your supply's population exceeds 50 people during a planned event, your supply will remain a Very Small Community and rule VSC.4 applies.

Very Small Community Scenario 3.

- A music concert is being held in the community and the Very Small Community water supply will be used for the event. The event has sold 150 tickets, so the expected population will exceed the 50-person limit and rule VSC.4 applies. The water supplier must test the drinking water for *E. coli* and total coliforms the week before, and week of, the event. Treatment must also be installed for the event and must include a form of filtration (e.g. cartridge filtration), and either ultra-violet (UV) disinfection or chlorine. After the event when the supply returns to normal population below 25, the supplier can choose to remove the treatment or continue to run it as a permanent installation to maintain safer drinking water for the community all year round.

If your supply's population exceeds 50 people for any reason other than a planned event, you may remain a Very Small Community supply and rule VSC.3 applies.

Very Small Community Scenario 4.

- Every summer a community's population increases to around 60-80 people for two weeks over the holiday break. The population threshold of 25 is exceeded but not for more than 60 days, and therefore the supply continues as normal. If the population increase lasts for longer than 60 days over the course of the calendar year, then the additional requirements in rule VSC.3 apply.

Very Small Community Rules

Very Small Community drinking water supplies must demonstrate compliance against just one Rules module, the VSC Rules module, which contains four rules.

The following section sets out the four rules that Very Small Communities must comply with, explains the reason for the rule and recommends actions you can take to comply.

VSC.1 - Drinking water must be monitored at least every six months for the following: (a) *E. coli*; (b) total coliforms.

What does rule VSC.1 require me to do?

Rule VSC.1 requires you to collect a sample from your water supply (not source water) at least every six months and to have that sample analysed for *E. coli* and total coliforms.

Rule VSC.1 helps you have some understanding of the microbiological quality of the water you are supplying.

You are not required to provide the result to the Authority if no *E. coli* are detected in the sample. If the sample detects *E. coli*, you are required to notify the Authority of this risk (according to sections 21 and 22 of Act), and so is the laboratory that tested the sample.

Where should I collect samples from?

You may collect from the water leaving the treatment plant (if there is one), the pipe network that delivers water to consumers, or from a consumer's house in the community. The samples should not be collected directly from the source, e.g. a roof water tank, stream or spring if that is where water is being abstracted from, because the test is intended to determine the quality of water that people are actually drinking.

When should I take samples?

Samples must be collected and analysed every six months. It is up to you to decide when to collect the samples but good practice includes:

- taking samples evenly across a year rather than taking samples within close timeframes
- collecting the samples at a time when the water quality is likely to be poorest.

For water supplies that take water from surface waters (streams, rivers, roof water), water quality is poorest when it is raining or there has been recent rain. If a water treatment system is being used, the result will provide an indication of the effectiveness of that system. If there is no treatment, sampling during or shortly after a rain event will give an indication of the worst-case scenario, e.g. when people are most likely to become ill from drinking from the water supply.

Should I sample more frequently?

Twice yearly monitoring of the water supply will only provide limited information about the safety of the supply. We recommend that you increase testing to three monthly if a treatment system is being used, or monthly if the water is not treated.

What are *E. coli* and total coliforms?

E. coli are bacteria that indicate faecal contamination. If they are found in a water sample, it indicates that the sample is contaminated with the faeces of a person, animal or bird. Generally, *E. coli* itself won't make someone ill (there are some species that can cause illness, but they are not common), but if a water sample is contaminated with faeces it is expected that bacteria and other types of micro-organisms (called pathogens) that can cause serious illness will also be in the water. Some of these pathogens include bacteria like *Campylobacter* and *Salmonella*, viruses like norovirus, and protozoa like *Cryptosporidium* or *Giardia*.

Total coliforms are a group of bacteria that can be found in faeces but also live in the wider environment, e.g. on decaying vegetation. If total coliforms are found in a water sample, it indicates that bacteria are present in the water.

What do the test results mean?

You can use the results of both tests together to inform you of the quality of water being provided. If a sample result is positive (e.g. 1 per 100 mL or more) for *E. coli* it tells us that the water is contaminated with faeces and is not safe to drink. The higher the number of *E. coli*, the greater the risk, but any level of *E. coli* indicates that water is not safe to drink and should not be consumed without some form of treatment.

If a sample is positive for *E. coli,* it will also be positive for total coliforms because total coliforms are a group of bacteria and *E. coli* are a part of that group. A sample result could be positive for total coliforms and negative for *E. coli*, this tells us the water is contaminated with bacteria, but they are not from the faeces of humans, animals or birds.

When a result is positive for total coliforms but negative for *E. coli*, it indicates there are some bacteria in the water but they are unlikely to make people unwell. In this case, it is important to identify where the contaminating bacteria are likely to be coming from and prevent further contamination, because if the water can become contaminated with non-faecal bacteria, it could also become contaminated with faecal bacteria.

What do I do if a result is positive for *E. coli* or total coliforms?

If a sample result is positive for *E. coli*, you must take immediate steps to protect consumers and prevent them from becoming unwell from consuming the water. You can do this by advising all consumers to boil the water before they drink it. Water suppliers also need to advise the Authority if a sample is positive for *E. coli* (see section 21 of the Act).

However, advising consumers to boil all drinking water is only a short-term measure. You must investigate to find the cause of the *E. coli* contamination and fix it. You should take the following steps:

- if the supply has a treatment system, check it is working properly
- if a treatment system is not installed, consider finding a suitable system and installing it
- contamination can also occur from within the pipe network so, if the treatment system is working correctly, check the distribution system for sources of contamination.

Further information about treatment options for Very Small Communities can be found in the Rules Interpretation Guide for Small Drinking Water Supplies (which will be published in April 2025). However, we recommend you seek the advice of an experienced expert.

VSC.2 - All water samples taken for VSC.1 must be—(a) analysed by a laboratory accredited by IANZ for those tests; and (b) collected according to the requirements of that laboratory.

What does rule VSC.2 require me to do?

Rule VSC.2 requires a water supplier to ensure that all samples analysed from its water supply are analysed by a laboratory accredited to the external organisation International Accreditation New Zealand (IANZ) and that the water supplier follows the instructions of the laboratory when collecting the sample.

The conditions for analysing *E. coli* and total coliforms can only be achieved in a laboratory or with equipment that is managed by a laboratory. Laboratories that undertake analysis of water samples for *E. coli* and total coliforms must demonstrate to IANZ that they have the capability and equipment to undertake these tests in a way that will provide an accurate result.

This rule ensures the water supplier, consumers and the Authority have confidence that the result of the testing is accurate. Use the Public Register of Laboratories to find an IANZ accredited laboratory.

How do I take a sample for *E. coli* and total coliforms?

When a sample is collected, we are trying to find out about the quality of the water that is being provided to consumers. To do this, samples are usually taken from a tap at the treatment plant, in the pipe network or at a consumer's house. The sample can easily be contaminated when it is being collected from the tap. When this happens, the result may not accurately tell us about the quality of the water quality going to consumers.

The laboratory undertaking the analysis of the sample will advise you on how to collect the sample without contaminating it. Samples must be collected into sterile containers provided by the laboratory. You must disinfect the tap that the water is taken from before the sample is collected from it. There are several ways to do this, including wiping it with alcohol, wiping it with bleach, or using a flame to kill any microbes that may be on or inside the tap. The laboratory will also provide requirements for storing and returning the sample to ensure an accurate result.

VSC.3 - When the population exceeds 25 people for more than 60 days in any 12-month period, the relevant Rules modules for Small Supplies set out in Table 2 must be followed, for the remainder of the calendar year.

What does VSC.3 require me to do?

If the threshold of 25 people for more than 60 days is exceeded, rule VSC.3 requires a water supplier to demonstrate compliance against the relevant Rules modules for Small Supplies (set out in Table 2 of the Rules) for the remainder of the calendar year.

Why are there population and timeframe limits for my supply?

When water supplies have limited or no water treatment and limited monitoring of water quality, the consequence of things going wrong increases as the population increases, i.e. more people could get sick. While the likelihood of something going wrong may not necessarily increase, the longer that an elevated population is exposed, the greater the overall risk.

For these reasons, rule VSC.3 limits the number of people and the length of time that they can use a Very Small Community drinking water supply that has minimal monitoring and no requirements for water treatment.

When the population of a Very Small Community drinking water supply exceeds 25 people for more than 60 days in any 12-month period, further measures to protect consumers are necessary and the Rules for a Small Supply must be followed.

VSC.4 - When the population exceeds 50 people for a planned event, the following requirements apply: (a) during the event, water must be—(i) filtered; and either (ii) disinfected with UV light; or (iii) chlorinated; (b) drinking water must be monitored in the week before the event and weekly if the event exceeds one week for the following: (i) *E. coli*; (ii) total coliforms.

What does rule VSC.4 require me to do?

Rule VSC.4 requires a water supplier to ensure that if the supply population exceeds 50 people for a limited time due to a planned event, water is filtered and disinfected prior to being delivered to the community. The water supplier can determine how the drinking water is filtered and to what extent. The drinking water must also be disinfected with UV light or chlorine before delivery to consumers.

Water suppliers must also monitor their supply for *E. coli* and total coliforms in the week before the event and weekly if the event exceeds one week. Samples should be taken after any

temporary treatment is put in place to ensure the treatment is effective. Monitoring must be no earlier than one week before the event starts to ensure the treatment is working and while conditions are likely to be similar. For longer events, weekly testing is required because conditions may change, affecting the water quality.

We also recommend that you undertake additional monitoring of *E. coli* if there are rapid changes in weather conditions.

Why do I need to treat my water and monitor it more frequently when I hold a planned event exceeding 50 people?

When water supplies have limited or no water treatment and there is limited monitoring of water quality, the consequence of things going wrong can rise if the population increases for a short period of time, i.e. more people could get sick. This may occur when you hold a planned event and more than 50 people use your water supply for a limited period.

For these reasons, rule VSC.4 requires some simple water treatment to be introduced to the supply in this case. It also requires additional water quality monitoring.

Where can I find additional information on treatment and monitoring?

You can find more information on treatment options and monitoring in our guidance for small supplies. However, we recommend you seek the advice of an experienced expert.

For more information, please email opssupport@taumataarowai.govt.nz.