Issue #1 April 2023

BULLER DISTRICT COUNCIL
Te Kaunihera O Kawatiri

Frequently asked Questions

Chlorination of Reefton's water supply

FAQ

Get started to find out more about what is happening by reading our frequently asked questions (FAQ).

When is chlorination happening?

Council is planning for the chlorination to be in place by mid May to early June . This will occur in four phases:

- Flushing – pushing water through the pipes to clear them of build-up. This happens regularly now but will increase prior to implementation.
- Installation and Commissioning – installing and testing new equipment at the existing Water Treatment Plant (gas dosing system, pH probes, sensors, alarms and emergency shut-off systems on cylinders).
- Operations – trialling the equipment for short periods of time to gauge its effectiveness and identify any issues. This may involve dosing the system on a limited basis to test the reticulation system.
- Go live – permanent chlorination of the Reefton water supply.

What's happened previously?

In 2020, Council found bacteria in the Reefton water supply, and this resulted in a boil water notice. Further investigation found some issues at the reservoirs.

The problems identified in 2020 were investigated and budgets were assigned in Buller District Council's Draft Annual Plan 2020/21. These improvements included:

the realignment and replacement of the rising and falling main (complete) securing the integrity of the treated water reservoir (complete) the provision of residual disinfection (chlorination) (scheduled for 2023).

Why chlorinate?

Under the Water Services Act 2021, passed in November 2021, all councils must provide residual disinfection (chlorine) for public drinking water supplies.

Chlorination has been used safely and effectively all over the world for around 120 years as a preventative treatment to avoid contamination of water supplies. It keeps millions of people all round the world safe from waterborne disease, including the majority of New Zealanders

We want to make sure the water is always safe to drink to everyone in our community and to avoid the need for boil water notices.

Currently the water leaving the Reefton water treatment is compliant with drinking water standards, however chlorine provides an additional barrier to any contamination which occurs post-treatment at the plant.

How will Council chlorinate Reefton water?

A new, automatic dosing system is being installed at the Reefton water treatment plant. The dosing system will provide a constant, low dose of chlorine into the water system that supplies Reefton with drinking water.

From the reservoir the chlorinated water flows through a network of pipes prior to reaching your tap. This provides plenty of time for the chlorine to inactivate (stop from growing) any bacteria which may be in the water.

There will be chlorine monitors in both the treatment plant and reticulation (pipe network) which will inform the dosage rate. WestReef staff will also have a portable chlorine monitor to read levels throughout the reticulation.

Are other places in Buller chlorinated?

Westport is chlorinated and following Reefton, Punakaiki will also be chlorinated.

What are the timeframes for testing? Will we be warned if temporary chlorination that is going to happen as part of the testing process?

Notification will be given when the system is being tested and if this involves brief periods of chlorination, and when the township is being permanently chlorinated.

Frequently Asked Questions

What should you expect once the water is chlorinated?

In the first one or two weeks of the water being chlorination, a change in the taste and smell of the water are to be expected. Chlorine acts on the organic build up in the pipes. A change in taste/smell means it is doing its job. This will settle down.

If you think there is something wrong with the water (tastes very strong, has an unusual odour or is not colourless) we will want to hear from you, please email info@bdc.govt.nz with the subject Reefton chlorination. This might result in more flushing and testing in the network.

How much chlorine is being added to my water?

The Drinking Water Rules require a minimum dose of 0.2 mg/l of chlorine in the water at the point of supply on your property (toby). Normally the dose at the water treatment plant is about 1mg/l as some chlorine is lost once the water is running through the pipes.

How will it be monitored?

Reefton will have two chlorine monitors post-reservoir and one monitor at the treatment plant to optimise the chlorine dose and ensure the water is safe. This dosage may vary at specific times if it is needed to keep your drinking water safe.

If I can taste chlorine, how do I remove it?

There are many ways of reducing the taste of chlorine in your water. A simple method is to let the water sit out on a bench as the chlorine level will naturally reduce over time or chill the water in a bottle in the fridge. This will not reduce the chlorine level, but many people find it tastes much nicer.

You can also filter the water though a carbon filter. The cheapest option is to buy a small filter jug which sits in your fridge. You pour the water into the top and it filters through a small cartridge into the bottle of the jug. These are designed to fit in your fridge to also chill the water. A more expensive option would be to install an under-sink filter which is attached to a cold tap.

If you don't want to shower or wash your clothes in chlorinated water, you can buy at your own cost a filter that attaches to your water supply where it enters your property. It will remove all the chlorine from the water to your home. This is the most expensive option.

These filters remove chlorine by adsorption to a granulated activated carbon (GAC) filling which is safe for drinking water use. These are available from hardware supplies stores and water filter companies. Your local plumber may also be able to install one. After a while the filter will become 'used up' and needs replacing.

Is chlorine safe?

Chlorine has been used safely all over the world for around 120 years. It keeps millions of people all round the world safe from waterborne disease.

The majority of New Zealand's drinking water is chlorinated. Westport is already permanently chlorinated, providing effective treatment to keep the water safe for the town.

The amount of chlorine added to the water supply is carefully managed and monitored to ensure levels of chlorine in the water people drink are absolutely minimised.

What if I have a skin condition or sensitivity to chlorine?

Chlorine can be an irritant for existing skin conditions such as asthma or eczema. If you feel your skin getting dry or itchy, use moisturiser after having a shower or bath. If you notice increased skin irritation, asthma symptoms or other symptoms, seek medical advice from your GP.

If you have severe reaction or a reaction that seems unusual for you, we want to hear from you and we will log the incident and investigate.

What about my pets?

If you have fish in outside ponds you will need to either turn down in-coming water to an absolute trickle (this dilutes the chlorine level to a safe amount for your fish) or fill up containers of water and let them sit for at least 24 hours before using (the UV of the sun evaporates chlorine). You could also collect rainwater and use that instead.

For smaller fish tanks or bowls inside, fill up a container of water and let it sit for at least 24 hours and then only replace a third of the water at a time. If you're still worried, you can buy de-chlorinating kits (sodium thiosulfate) at pet supplies stores.

How does council communicate with people in Reefton during this process?

There will be a community meeting on 12 April at the Reefton Cinema, where the project team will explain the process of chlorinating the Reefton water supply and answer questions.

A regular newsletter will be distributed via email, and for collection at the Reefton Visitor and Service Centre. You can subscribe for the newsletter by signing up to Buller District Council's email list online by selecting Reefton.

Go to bullerdc.govt.nz/do-it-online/ water-supply-update-sign-up/

Updates on progress, timeframes and any other relevant information on the project will be posted on the Reefton Water Facebook page, with major updates on Buller District Council's Facebook page, and website - bullerdc.govt.nz

FOR MORE INFORMATION

If you have further questions, please email **info@bdc.govt.nz** with the subject **Reefton chlorination**. If you like to be added to the distribution list for updates **please subsribe at bullerdc.govt.nz/do-it-online/water-supply-update-sign-up** selecting Reefton.

bullerdc.govt.nz

Frequently Asked Questions

The project team can be contacted by emailing info@bdc.govt.nz with the subject Reefton chlorination.

Copies of newsletters and Frequently Asked Questions will be available at Reefton Visitor and Service Centre.

Reporting issues

We expect that at the start of the chlorination process, as any remaining debris in the pipes is chlorinated, there will be a short period where the water will taste stronger. This will dissipate over time.

If you think there is something wrong with the water, we will want to hear from you. Please either email info@bdc.govt.nz with Reefton chlorination as the subject or lodge a service request with Council.

Reefton Visitor and Service Centre

Staff at the Reefton Visitor and Service centre will have copies of Frequently Asked Questions and Newsletters as they are published. Please remember they are there to help you access information.

Why does drinking water need to be treated?

International experts are in agreement that drinking water should always be disinfected even if the source of the water is protected from influences from the surface (such as deep groundwater). This is because contamination can occur in the pipes or reservoirs the water flows through (such as repairs, backflow, and deterioration with age).

A well operated water treatment system reduces the risk of water supplies becoming contaminated.

What happens when drinking water becomes contaminated?

Contaminated water can result in disease spreading quickly through a population. About 5,500 of the 14,000 residents in Havelock North were estimated to have become ill with campylobacteriosis in 2016. Around 45 were subsequently hospitalised. This outbreak may have contributed to three deaths, and an unknown number of residents continue to suffer health complications. This resulted in changes to regulations around drinking water.

What is FAC?

When chlorine is introduced to untreated water it gets ‘spent’ or used up when it reacts

with organic matter and micro-organisms. Water treatment plant operators need to ensure that the amount of chlorine left in the water after it has been spent is sufficient to continue to safeguard the water from any possible recontamination throughout the reticulation. This leftover chlorine is called free available chlorine (FAC).

How can the water in the pipe network (reticulation) get recontaminated?

Contaminated water can enter a water supply through cracks in pipework, or through any backflow in the reticulation. Backflow is one of the biggest risks to water supplies and happens when water flows backward from a customer’s property into the network. This can happen when pressure drops in the network and causes water (and potentially contaminants) to be sucked or pushed back into the public water supply.

We already treat the water with UV. Why do we have to chlorinate the water as well?

Both chlorine and UV provide excellent disinfection of water.

Ultraviolet (UV) light works by inactivating micro-organisms, making them unable to reproduce in the human gut. This treatment allows them to pass right through the body without causing any illness. UV light is a highly effective disinfectant at the point of treatment, but doesn’t offer any protection from possible recontamination of the water within the reticulation once it has left the treatment plant. Chlorine is a highly efficient disinfectant that will kill most micro-organisms in the water. Once introduced into a water supply, chlorine will continue to kill any pathogens that it comes into contact with as it passes through the reticulation. This is called a residual disinfectant, and this is the major difference between UV and chlorine treatment.