Issue 1 October 2024

BULLER DISTRICT COUNCIL
Te Kaunihera O Kawatiri

Frequently asked Questions

Chlorination of Punakaiki's water supply

Find out more about what is happening to the Punakaiki water supply by having a read of our frequently asked questions (FAQs).

When is chlorination happening?

Council is planning for chlorination to be in place during November and December 2024. This will occur in three phases:

- **Installation and commissioning (October to November 2024)** – installing and testing new equipment at the existing Water Treatment Plant (dosing system, pH probes, sensors).
- **Operations (November 2024)** – 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 (December 2024)** – permanent chlorination of the Punakaiki water supply.

What has happened previously?

There have been several occasions in the past where bacteria has been detected in Punakaiki's water supply, leading to temporary boil water notices being issued. These events highlighted vulnerabilities in the system, prompting the need for enhanced water safety measures, including chlorination.

The chlorination project has been a priority for Buller District Council. Initially, funding was allocated through the Council's Long-Term Plan and Annual Plan for the 2022/2023 financial year. However, due to budget constraints, the project was carried over to the 2024/2025 financial year to ensure adequate resources were available for its completion.

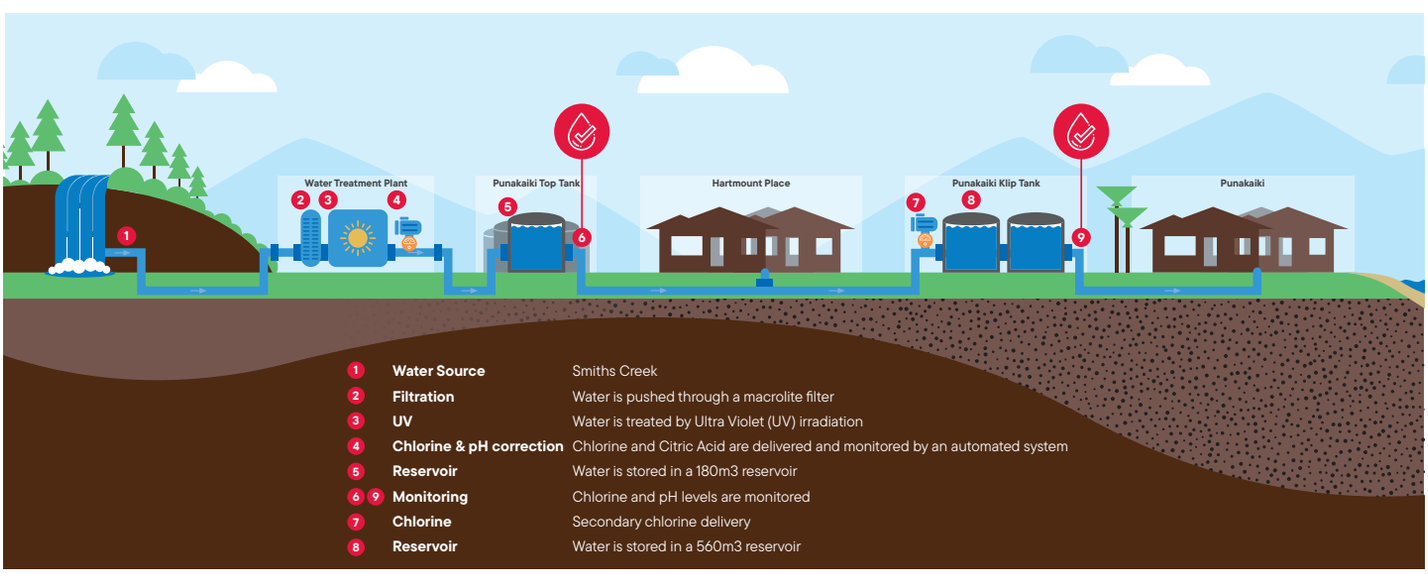
Why chlorinate?

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 for everyone in our community, and to avoid the need for boil water notices.

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



Frequently Asked Questions

How will Council chlorinate Punakaiki's water?

A new, automatic dosing system is being installed at the Punakaiki Water Treatment Plant. The dosing system will provide a constant, low dose of chlorine to the water system that supplies Punakaiki 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 kill 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?

The Westport and Reefton water supplies are already chlorinated.

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

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

What should you expect once the water is chlorinated?

Punakaiki has a large volume of water storage, and with chlorination being commissioned before the peak summer period, water consumption will be relatively low. This means that the turnover of chlorinated water through the system may be slower than usual

Additionally, due to the lack of sufficient flushing points in Punakaiki, it may take one to two weeks for chlorinated water to fully reach your tap after commissioning.

In the first few weeks of the water being chlorinated, you may notice a change in the taste and smell of the water. This is completely normal and indicates that the chlorine is effectively acting on organic matter build-up in the pipes. A change in taste or smell means it is doing its job. The change in taste or smell will gradually settle down.

If a property has been vacant for some time and will be occupied during the holidays or peak season, it is strongly recommended to flush the outside tap for at least 20 minutes before using the internal water supply. This will ensure that any stagnant water in the pipeline is removed. Long-standing chlorinated water may produce an unusual odour due to the reaction between chlorine and organic matter. Flushing the outside tap first will help prevent this issue inside the property.

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

How much chlorine is being added to my water?

The Drinking Water Standards 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 1 mg/l, as some chlorine is lost while the water runs through the pipes and during its retention time in the storage tanks.

This is why a secondary dosing system is necessary at the Klip Tank, which is the storage tank for Punakaiki. The Klip Tank has a capacity of 560m^3, meaning the chlorinated water from the treatment plant spends more time in storage. The secondary dosing system ensures that by the time the water reaches your tap, it still contains at least 0.2 mg/l of chlorine to meet safety standards.

How will it be monitored?

Punakaiki will have two chlorine monitors installed 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 try chilling 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 through 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 the cold tap.

If you don't want to shower or wash your clothes in chlorinated water, at your own cost, you can buy a filter that attaches to the 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 supply 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 need replacing.

Is chlorine safe?

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

The majority of New Zealand's drinking water is chlorinated. Westport and Reefton are already permanently chlorinated, providing effective treatment to keep the towns' water safe.

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.

Frequently Asked Questions

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

Chlorine can be an irritant for existing skin conditions such as eczema, and also for asthmatics. 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 incoming 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 (UV from the sun evaporates chlorine). You could also collect rainwater and use that to top up your pond 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 supply stores.

How will Council communicate with Punakaiki residents during this process?

Regular updates will be distributed via email, and hard copies will be available for collection at Council's offices in Westport. Copies of newsletters and frequently asked questions (FAQs) will be available at the Dolomite Point Visitor Centre.

You can subscribe for the project newsletter by signing up to Buller District Council's email list online:

Go to bullerdc.govt.nz/do-it-online/water-supply-update-sign-up/ an select the Punakaiki option.

Updates on progress, timeframes and any other relevant information on the project will be posted on the Buller District Council Facebook page and website - visit bullerdc.govt.nz/your-council/key-projects/punakaiki-water-supply-chlorination/

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

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, such as deep groundwater, is protected from influences at the surface. This is because contamination can occur in the pipes or reservoirs the water flows through (caused by issues such as repairs, backflow, and deterioration with age).

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

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 want to hear from you. Please either email info@bdc.govt.nz with 'Punakaiki chlorination' as the subject, or lodge a service request with Council.

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 residual disinfection, and this is the major difference between UV and chlorine treatment.

FOR MORE INFORMATION

If you have further questions, please email **info@bdc.govt.nz** with the subject **Punakaiki 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 Punakaiki.

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