

Water Quality Issues

10/21/21

Recently disinfectant residuals in some areas have diminished, and in some cases, fallen below the state minimum of 0.5 milligrams per liter. The City of Killeen was particularly affected and has been working with the Texas Commission of Environmental Quality Optimization team (Texas Optimization Program) since Tuesday evening to help understand the issue and take the necessary steps to restore residuals and water quality.

TCEQ Data Review

After a review of data from the Cities of Killeen, Harker Heights, Copperas Cove and Bell County WCID 1, the Optimization experts have concluded that “nitrification” is likely occurring within parts of the system. “Nitrification” is a biological action that results in depleted disinfection levels if not addressed. Bacteria that cause nitrification are not harmful, but the depleted disinfectant residuals leave the system vulnerable for other types of bacteria that could be harmful.

[Media Relations - Texas Commission on Environmental Quality - www.tceq.texas.gov](http://www.tceq.texas.gov)

Recommendations

One of the primary recommendations made by the Optimization team is to begin using only chlorine as the treatment disinfectant rather than the chlorine/ammonia combination currently in place. To facilitate recovery of our entire system, WCID 1 is compelled to take this step. Each customer system should view this as an opportunity for a “deep cleaning”. By deep cycling the tanks and strategically flushing to move the free chlorine water throughout the system, any biofilm that may be present will be addressed.

Before 1980 surface water systems used free chlorine only for disinfection. It was only after science showed that chlorine combined with some organics (chlorine by products) could cause health effects, was ammonia added to the disinfectant process to form chloramines.

What can be expected with the disinfectant change?

As the free chlorine works through the system, it's not unusual to notice a "bleach" smell with dish washing or clothes washing. This is usually very temporary.

How long will the change last?

Once the conversion starts, the TCEQ suggests a 30 day period to be thorough and allow the change to work throughout the far reaches of the system. The boil order can be lifted once residuals have stayed above the minimum required level for 24 hours AND the water tests free of bacteria. The bacteria test takes 24 hours, so the soonest the boil order could be lifted would be 48 hours from the time the residuals rise above the minimum required 0.2 milligrams per liter for free chlorine (the minimum level for chloramines is 0.5 milligrams per liter).