Surface Water Treatment Technique Violation: Non-Acute

This notification affects only customers in the Westside pressure planes. You are receiving this notice because your location for Fort Worth water service is in the Westside pressure planes.

Required language
The Texas Commission on Environmental Quality (TCEQ) sets minimum water quality standards for public drinking water. These standards include enforceable treatment technique requirements for drinking water. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

The City of Fort Worth, PWS ID TX2200012, failed to meet the minimum treatment technique requirements for the month of March 2021. Specifically, our water system had a failure to maintain microbial treatment.

What happened
The Westside plant uses the membranes to achieve removal credits for *Cryptosporidium*, *Giardia lamblia* and viruses. To receive the removal credits, TCEQ requires that each membrane rack pass a direct integrity test (DIT) every seven days.

The DIT is performed by pressurizing air through the membrane modules and holding that pressure for a pre-established duration. If the pressure drops below a minimum value, the test fails. Then the utility places the rack offline and inspects each module, looking for broken fibers that may impact the filtration effectiveness. Fort Worth has an internal procedure to do the test at least every five days.

On February 24, a successful DIT was achieved on membrane rack #5. On March 1, another DIT was performed. The operator who performed the DIT acknowledged an alarm resulting from the DIT test and mistakenly placed the rack back into service, not realizing the DIT had failed. TCEQ issued the city a notice of violation because eight days elapsed before a successful DIT was secured on membrane rack #5, and it was in service for three days after a failed test.

On March 4, a DIT on rack #5 was performed following modifications to the membrane control software to meet new TCEQ operating parameters. Rack #5 was air tested and maintenance personnel found air pressure escaping because of a loose cap on top of one of the 132 membrane modules in rack #5. The cap was tightened, and the rack passed the integrity test. There were no broken membrane fibers found within any of modules during this inspection.

The other four membrane racks had successful DIT performed within the required timeframe and without any failures. Both the conventional granular filters and membrane filters recorded exceptionally good water quality levels throughout the period in question. The effectiveness of filters is measured by the turbidity (clarity) of the water. All routine bacteriological samples taken in the westside pressure planes on March 2, 3, 8, 10, 11, 15 and 25 passed.

The Westside Water Plant , built in 2012, is the only Fort Worth plant to use membranes in the treatment process. Unlike most drinking water membrane filtration plants, the Westside Water Treatment Plant has a full conventional treatment process upstream of the membrane filters. The pre-membrane treatment includes using ozone for taste and odor control and disinfection, chemical mixing, settling and granular media filtration. Final disinfection occurs after the membranes and before the water is sent to customers.

Additional information about the Westside Water Treatment Plant is available online at www.FortWorthTexas.gov/departments/water/drinking-water/tt-violation.

Corrective Actions
The utility retrained all of the operations staff at the Westside Plant on how to respond to alarms pertaining to the membrane system. Also, each operator will receive and sign a memorandum of understanding to this effect to be placed in their personnel file.

Let others know
Please share this information with all people who drink this water, especially those who may not have received this notice directly (i.e., people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Contact information
If you have questions regarding this matter, you may contact Water System Superintendent Russ Pior at 817-392-8194.

Posted on: April 1, 2021