FAQs About the Public Notice Issued October 2020

BCWSA works diligently to deliver the highest quality drinking water to its customers. We invest in replacing and upgrading aging infrastructure and continuously make improvements to ensure that we meet upcoming water regulations. Sometimes circumstances beyond our control may affect the quality of the drinking water. One such situation occurred in the Middletown Township portion of the BCWSA Main Lower South Water System.

On August 31, 2020 laboratory results were received that indicated levels of some haloacetic acids (HAA) and trihalomethanes (THM) were above acceptable levels. The Pennsylvania Department of Environmental Protection (PA DEP) was immediately notified and they recommended collecting a second set of samples to confirm the results.

A second set of samples was collected and laboratory results were received on October 2, 2020. These results showed that the levels had decreased and in several instances were now below Health Advisory Levels (HAL). However, some levels remained above the HAL. The number that is reported is an average of the two sets of results. Compliance is then based on a locational running annual average (LRAA) of quarterly results. One location had an LRAA for Trichloroacetic acid (TCAA) that exceeded the Environmental Protection Agency's (EPA) Lifetime Health Advisory Level (HAL) of 0.02 mg/L (20 µg/L).

We are required to inform customers when the HAL is exceeded. Public notice was enclosed with the bills for all customers in the Main Lower South System even though there was only one location where the HAL was exceeded. This is not an emergency situation, and you may continue to drink the water. Below are some answers to some frequently asked questions about the public notice.

Am I in the area affected by this public notice?
If you receive water from BCWSA and reside in the area of Middletown Township near the intersection of Woodbourne Road and Lincoln Highway then you are within the affected area. If you do not receive your drinking water from BCWSA, you are not affected. If you receive your water from BCWSA but are in the New Hope area, you are not affected - the source of your water is a different supply and the public notice does not apply to you. If you are unsure if this notice applies to you, please call us at 215-343-2538 to determine if you are within the service area affected by this notice.

Why is there a drinking water violation?
Chlorine is used in the water supply to kill harmful bacteria and viruses. When the chlorine is added to the water, it combines with naturally occurring organic and inorganic materials present in the source water and forms chemicals called disinfection byproducts (DBPs). The EPA sets standards for controlling the levels of these DBPs, including total trihalomethanes (THMs) and haloacetic acids (HAAs). The regulations require us to test for THMs and HAAs on a quarterly basis and report a Locational Running Annual Average (LRAA), meaning the results from the four previous quarters are averaged for each location and this number must not

exceed the Maximum Contaminant Level (MCL). So one high result can affect the yearly average even if results from the three other quarters are lower.

What is the Health Advisory Level (HAL) for Trichloroacetic acid (TCAA) and what was the level in my water that exceeded this number?
The HAL for TCAA is 20ppb. The TCAA results for the location near the intersection of Woodbourne Road and Lincoln Highway is shown in the chart below.

Fourth Quarter 2019 Sampled November 2019	First Quarter 2020 Sampled February 2020	Second Quarter 2020 Sampled May 2020	Third Quarter 2020 Average Sampled August & September 2020	Locational Running Annual Average
30.0 ppb	15.0 ppb	14.1 ppb	46.4 ppb	26.4 ppb

What is TCAA?
Trichloroacetic acid (TCAA) is one of five haloacetic acids (HAA) commonly found in drinking water. TCAA is a carboxylic acid where three chlorine atoms replace three hydrogen atoms. The five HAAs monitored in drinking water are monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. They are formed as disinfection by-products (DBPs) when chlorine is added to kill bacteria and other pathogenic microorganisms. The chlorine reacts with naturally-occurring organic material in the source water to produce DBPs. Although they are called acids, HAAs in water are at least partially in non-acidic states. The amount of HAAs in drinking water changes from day to day and is dependent on the season, water temperature, water age, amount of disinfectant added, the amount of organic materials in the source water, and a variety of other factors.

What are the health effects of TCAA?
The United States Environmental Protection Agency (EPA) considers TCAA to be a potential human carcinogen. In animal studies, it has increased the incidence of liver cancer. Human studies have yet to confirm that TCAA exposure increases the risk of cancer.

Human exposure to TCAA directly occurs through consumption. It is slightly absorbed through the skin and does not vaporize into the air at bathing water temperature. Therefore, the potential health hazard is mainly from water that is used for drinking and cooking.

People who consume large volumes of drinking water containing any of the haloacetic acids (HAA) in excess of the maximum contaminant level (MCL) over many years may have an increased risk of cancer. The MCL for HAAs is 60ppb and is based on long-term exposure from drinking two liters (about two quarts) of water every day for seventy years. It is important to note that for this exposure to have significant effects, two things must occur: the MCL must be over the limit and a person must consume a steady amount at the high level over many years. HAAs are eliminated from the body completely one day to two weeks after ingestion depending on the specific acid.

Short-term effects are not likely due to HAA exposure. When concentrated, HAAs have irritant and corrosive properties to the skin and eyes. However, the concentrations that form from disinfection of drinking water are dilute. For example, the concentration of TCAA found is about one million times weaker than the concentration of TCAA used in products for cosmetic skin peels.

What should I do?
There is nothing you need to do. You do not need to use an alternative or bottled water supply. You do not need to boil your water. However, if you have specific health concerns, consult your doctor.

What is BCWSA doing about this?
Our source for the water in this portion of the system is supplied by Lower Bucks County Joint Municipal Authority (LBCJMA). In 2017 and 2018 we had violations in the same area of the system due to DBP exceedances. We met with LBCJMA staff and PA DEP staff to investigate options to lower DBPs. PA DEP conducted an optimization study on both LBCJMA's system and BCWSA's system and recommended steps for both authorities to take to lower DBPs. The recommendations were implemented and numbers were at acceptable levels for two years. This past quarter, LBCJMA changed operations at their drinking water treatment plant with no notification to BCWSA of the potential for higher DBP formation. Upon notification of our high results, we contacted LBCJMA and were told of operational changes. BCWSA has hired McCormick Taylor, an Environmental & Civil Engineering, Planning and Consulting Firm to assist in developing a solution to resolve the ongoing problems with the water supplied to us by LBCJMA.
For more information, please visit our website at www.bcwsa.net. You may also contact our consultant team at McCormick Taylor by directly calling 267-608-1100 or emailing at bcwsa@mccormicktaylor.com.

What should I do if I have more questions?
If you'd like to do some research on the web, the American Water Works Association has a website at www.drinktap.org that has some information on DBPs. You can also find information on EPA's website at www.epa.gov. You may also contact our consultant team at McCormick Taylor by directly calling 267-608-1100 or emailing at bcwsa@mccormicktaylor.com.