

Trihalomethanes Information for Bethlehem Water Customers (Updated 3/ 9/16)

Q: I've been hearing about problems with Bethlehem's water, what happened? **A:** Recently there has been media coverage of public notifications by the Town about our water system. In 2013, our water system failed to meet a stricter drinking water standard relating to the formation of disinfection byproducts in our water distribution system. The group of disinfection byproducts we are not in compliance with are known as trihalomethanes (THMs). The Town has discussed this problem for several years, and changes are being made in the system that have already reduced such disinfection byproducts. The vast majority of the Town's water is well within the new standard, and when the changes we are implementing are complete, all of the Town's water should be well within the standard.

Q: What are trihalomethanes? **A:** Trihalomethanes are a group of chemical compounds that form in water when naturally-occurring organic matter in the water reacts with the chlorine we use to disinfect your drinking water. Trihalomethanes are always present, at some level, in chlorinated drinking water. Almost all public water systems use chlorine or other similar disinfectants to kill bacteria, viruses and other pathogens. The amount of these compounds in our drinking water varies throughout the year based on a variety of factors including: organic loading in the raw water, water temperature, the amount of chlorine needed for proper disinfection, etc.

Q: What are the health effects? Is the water safe to drink? **A:** This is not an emergency, nor is there an imminent risk, and you do not need to use an alternate water supply such as bottled water. As expressed by the County Health Commissioner, residents should not be worried. Some studies suggest that people who drink water containing elevated levels of trihalomethanes for very long periods of time may have an increased risk of certain health issues. However, the science is not conclusive. The World Health Organization indicates that there is limited and inadequate evidence linking disinfection byproduct compounds to human health problems, particularly at concentrations found in drinking water. As a public health organization, the EPA always errs on the side of caution; they have, therefore, established and tightened limits on the concentrations of these compounds in drinking water. The average person would need to drink water containing THM's at twice the regulatory limit for several decades to present any potential risk of adverse health effects. Additional information on the health effects of disinfection byproducts is available on the following websites:

<http://www.cdc.gov/safewater/chlorination-byproducts.html>

<http://www.epa.gov/dwreginfo/stage-1-and-stage-2-disinfectants-and-disinfection-byproducts-rules>

Q: Why have Public Notifications been made about a violation? **A:** We routinely monitor our water for the presence of a number of chemical compounds. When test results fall short of complying with regulatory standards, we provide information to our customers about the compliance problem, potential health effects, and our plans to address the problem. Recent test results for a certain family of chemical compounds called trihalomethanes (THM) are out of compliance with regulations. These compounds are a byproduct of the disinfection process. Although this is not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

Q: What is the standard that Bethlehem failed to meet? **A:** As part of the federal drinking water standard for disinfection byproducts (the Stage 2 Disinfectants and Disinfection Byproducts Rule), we monitor four sampling sites on a quarterly basis. Prior to 2013, the average of four testing sites had to be under the regulatory limit for total trihalomethanes (TTHMs). The EPA standard is 80 parts per billion (ppb) – a measurement of the concentration of a chemical compound in a solution. Under the regulation that took effect that year, the sites had to be in areas with the highest likely THM presence.

When Bethlehem first fell under the new standards, two of our four sites were above the standard. However, since the second quarter of 2013 only one of our testing sites has failed. This site is located near the intersection of Wemple Road and River Road, which had a locational running annual average (LRAA) of 88 ppb at the end of 2015. These measurements are repeated every quarter, and we update our notification based on each test.

Q: Is there a particular area of Town that's affected? **A:** While this lower Wemple Road testing site is in the southeastern part of Town, and is served by the Clapper Road Water Treatment Plant (where changes are underway) that does not mean that these areas have been exposed to significantly higher levels of THMs. In fact, historically the Clapper Road WTP has produced water far less likely than other water sources to create THM issues. The regulation is designed to ensure that all of our water is well below any potentially threatening levels, and the County Health Commissioner has said that a slight exceedance such as that should not be a matter of concern to residents.

Q: What actions is Bethlehem taking to address this issue? **A:** The Town has been concerned about the impact of this rule change for some time and we have been and will continue to implement system improvements to reduce the amount of disinfection byproduct compounds in our water system in the most expeditious and cost effective way possible. Some of these improvements include the following:

- Unification of the Town's water distribution system and new baseline water quality testing in 2010 and 2011;
- Planning and design of plant process improvements at the New Salem Water Treatment Plant was completed in 2012. Construction of these improvements was completed in 2013;
- Additional water distribution system flushing;
- Certain operational changes at the Clapper Road Water Treatment Plant targeting disinfection byproduct compound generation;
- Design of long-term improvements to the Clapper Road Water Treatment Plant began in 2015. Construction of these improvements is slated to begin in 2017.

Q: How long will the water be out of compliance with regulations? **A:** The improvements at the Clapper Road WTP are scheduled to be completed in November 2019. Additionally, we will be looking at changes in the distribution system that may effectively bring down levels more quickly. We cannot estimate precisely when these changes will bring us within standards, because a running average is used to measure performance, and there are substantial variations having to do with events we cannot control (e.g., weather).

Q: In the meantime, if I'm concerned about elevated THM levels in my water supply, what can I do? **A:** Although the health risks associated with our levels of trihalomethanes are low, if these risks are concerning to you, there are steps you can take to reduce THM's in your own drinking water. The easiest way to reduce THM's in your drinking water at home is to use a water pitcher with an activated carbon filter or to install a tap-mounted activated carbon filter. The filters are manufactured by several companies and are readily available in many grocery and home improvement stores.

Q: Where can I go for additional information? **A:** Additional information on disinfection byproducts and trihalomethanes is available on the EPA website at <http://www.epa.gov/dwreginfo/stage-1-and-stage-2-disinfectants-and-disinfection-byproducts-rules> or by contacting the Albany County Health Department (Dr. Tom Brady) at (518) 447-4620.