

## What is this notification?

On October 10, 2019, the East Longmeadow Water Department issued a Tier 2 Public Notification about an exceedance of the regulatory limit, also known as the Maximum Contaminant Level (MCL), for haloacetic acid 5 (HAA5). This public notification is based on sample results from September 2019, and follows two previous public notifications in April and July 2019.

All customer addresses in East Longmeadow will receive a copy of the public notification in the mail.

This incident was not a public health emergency, but all of our customers were informed in the interest of transparency and in accordance with Massachusetts Department of Environmental Protection's (MassDEP) Drinking Water Program and EPA's Safe Drinking Water Act.

## What should I do?

There is no immediate public health concern. (If there had been, you would have been informed within 24 hours.)

There is nothing you need to do. You may continue to consume and use your water as normal.

*You do not need to drink bottled water.*

*You do not need to boil the water. (Boiling the water will have no effect on HAA5, as it is not a microorganism.)*

## Should I install a filter to remove HAA5?

No, the water is safe to drink and use as normal. The Town does not advocate the need to purchase a home water filter to remove HAA5, and does not recommend any particular models or brands.

For customers that still wish to install a home treatment device, it is advised to thoroughly research whether the filter they choose performs as advertised. According to the American Water Works Association, some home filters can be used to reduce some chemical compounds that form due to chlorination, but not all. Customers should inquire if the device they choose is certified by an independent third party. [NSF International](#), the [Water Quality Association](#), and [Underwriters Laboratories](#) all certify home filter products.

## Why is HAA5 regulated?

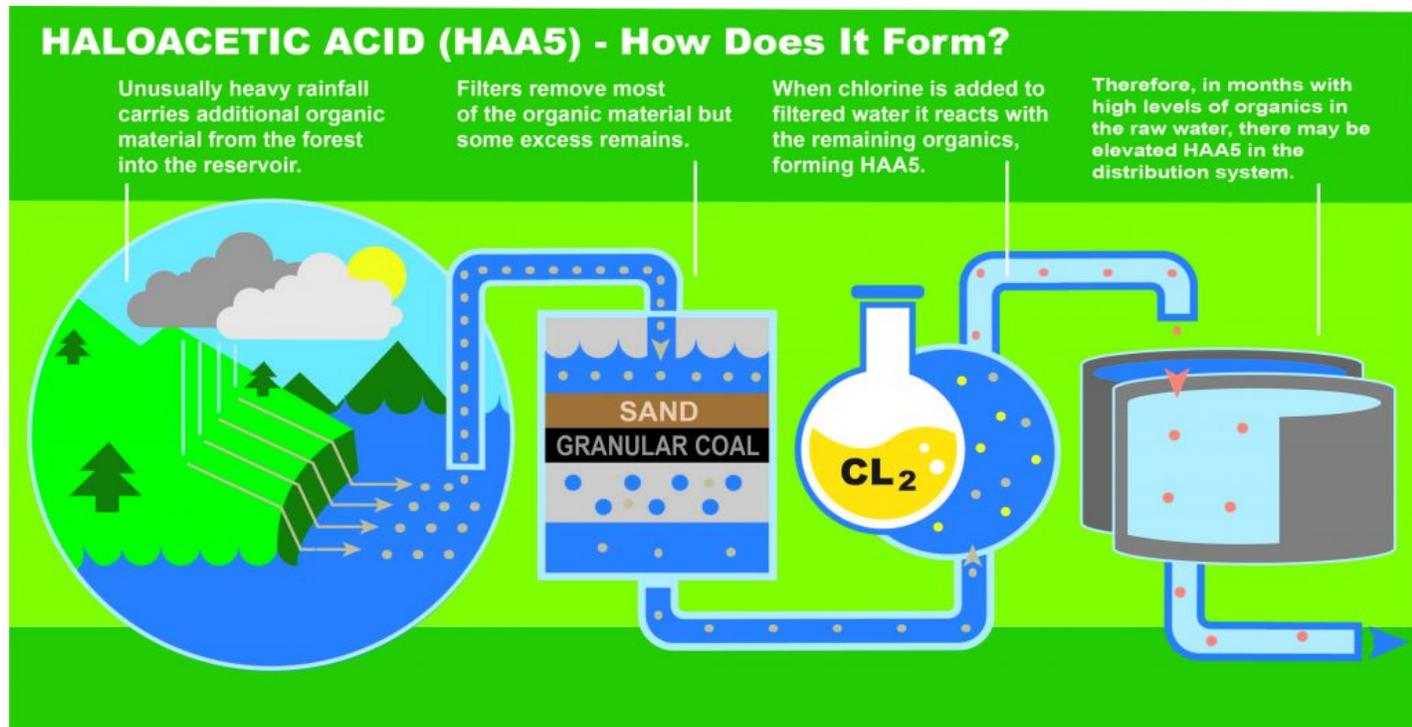
Some studies have shown that long-term exposure to HAA5 at elevated levels above the regulatory limit *over many years (i.e. decades or a lifetime)* may increase the risk of developing health problems. The MCL is set at a level intended to maintain a large margin of protection against health effects.

People with severe or acute health vulnerabilities or conditions should direct specific health questions to their healthcare provider. More information about the potential health risks of HAA5 is also available from MassDEP, which regulates drinking water quality, at 617-292-5770 or at <https://www.mass.gov/service-details/haa5-in-drinking-water-information-for-consumers>.

## Why does this keep happening?

HAA5 forms when chlorine reacts with dissolved natural organic matter (NOM) found in surface water supplies, such as Cobble Mountain Reservoir. NOM enters the reservoir from rain and snow melt from the surrounding forest. In 2018, over sixty inches of rain fell in the Cobble Mountain watershed - over half of which fell between September and December - after two years of drought. This rainfall represented a 40% increase over a typical year.

The above-average rainfall in 2018 increased the amount of dissolved NOM in the reservoir water by approximately 50%. This resulted in more interaction with chlorine, and thus higher than typical HAA5 levels. Though NOM levels are decreasing, the Springfield Water and Sewer Commission legacy water treatment plant was not designed to remove NOM at these elevated levels. The graphic below summarizes how HAA5 forms:



#### How long will this continue?

The Town continues to expect exceedances of the HAA5 regulatory limit to persist at least through 2019. This is in part because the regulatory limit for HAA5 is calculated as a running annual average. Elevated results from December 2018, March, June and September 2019 will thus factor into future compliance calculations.

To calculate compliance, samples taken at the same location over the last 12 months are averaged together to determine if HAA5 levels are above or below the regulatory limit of 60 parts per billion (ppb). The samples from December 2018 caused the LRAA at four locations in the Town's distribution system to average above 60 ppb.

#### Why is chlorine added to drinking water?

Chlorine has been used in drinking water since the early 1900s to prevent waterborne illness caused by pathogens (bacteria) such as cholera, typhoid, and *E. coli*. Such pathogens are considered the most widespread and immediate risk to public health associated with drinking water.

The use of chlorine to eliminate waterborne pathogens in drinking water is considered one of the greatest public health achievements of the 20th century, and has virtually eliminated waterborne illness in the developed world. Chlorine has been used by the Commission since 1966. The regulatory limit for HAA5 is set at a level that considers and balances the immediate health risk presented by waterborne pathogens should the water not be adequately disinfected, and the long-term health risks presented by HAA5 after long-term (decades or a lifetime) exposure to elevated levels.

#### What if I live near one of the elevated sample locations?

HAA5 levels can fluctuate throughout the distribution system and being closer to/farther from a sample station with elevated levels does not increase/decrease risk.

#### What is the SWSC doing to resolve the problem?

- **Adjusting Treatment Processes:** To address the HAA5 exceedance the SWSC has adjusted its treatment processes to limit the formation of HAA5 as much as possible. These include adjustments to coagulants, filtration processes, chlorination application, water storage, and the implementation of system flushing.
- **Planning New Treatment Upgrades:** A comprehensive plan for modernization upgrades to the water treatment plant has already been underway since 2015, in part due to the potential for this issue. Treatment upgrades that will prevent elevated HAA5 through more effective NOM removal will be identified and designed through this planning process. These potential upgrades include:

- Dissolved Air Floatation (DAF) Clarification Process or Pre-Oxidation Treatment - *to more effectively remove suspended particles and dissolved NOM prior to filtration*
- 
- Rapid Sand Filter Upgrades - *to more effectively capture and filter out dissolved NOM*
- New Electrical System - *to support new treatment processes*
- New Chemical Storage and Feed Building - *to support new treatment processes*
  
- **Pilot Testing New Treatment Processes:** Pilot testing of the above potential treatment methods, which would take place in an isolated model using water from Cobble Reservoir, has received approval from MassDEP and will begin in September. Pilot testing will take place through June 2020. The results of this testing will determine which upgrades will be constructed. Construction is anticipated to take approximately 36 months following design and regulatory approval by MassDEP. These upgrades are expected to cost \$70 million.
  
- **Enhancing Raw Water Sampling:** The SWSC is also commencing with a detailed raw water sampling program in Cobble Mountain Reservoir this summer to better characterize the composition of dissolved natural organic matter in the water. This data will be used to further inform the treatment upgrades. West Parish Filters Water Treatment Plant was originally built in 1909, with the last major modernization completed in 1974. Regulation of HAA5 began in 1998. The Commission has regularly optimized the existing plant processes to meet regulatory changes over the years, but the continual evolution of scientific knowledge, and new regulations based on that knowledge, highlight the need for the Commission's upcoming investments in major water infrastructure improvements.