



CITY OF RUTLAND
DEPARTMENT OF PUBLIC WORKS
RUTLAND, VERMONT

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PUBLIC NOTICE

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Levels of HAA5 Above Drinking Water Standards

Our water system recently exceeded drinking water standards for a regulated contaminant. Although this is not a health emergency, customers have the right to know what happened and how the City is addressing this issue. Please read this informational newsletter to learn about the event.

WHAT DOES THE CITY TEST FOR IN OUR DRINKING WATER?

As required by State and Federal regulations, the City routinely tests for over 150 potential contaminants, both naturally occurring and man-made. These include hundreds of bacteriological tests, tests for inorganic compounds and metals such as lead and copper, volatile organic compounds, synthetic organic compounds (including herbicides and pesticides), per and polyfluoroalkyl substances (PFAS), nitrate, radionuclides and compounds referred to as Disinfection Byproducts (DBP's). All tests have shown these 150+ potential contaminants to be either non-detectable or below regulated drinking water standards, **except for Total Haloacetic Acids (HAA5).**

The regulatory maximum contaminant level (MCL) for HAA5 is 60 parts per billion (ppb or µg/l). Two locations on the City water distribution system tested above this limit as follows: 62.5 µg/l on Greens Hill Lane and 60.9 µg/l on Gleason Road.

WHAT ARE HALOACETIC ACIDS?

Haloacetic Acids in drinking water are compounds formed when naturally occurring organic matter (dissolved plant material, etc.) combines with a strong oxidizing agent such as chlorine. Such dissolved organic compounds exist in all surface water and can increase with heavy rain events, easily erodible soils in the watershed, etc. The City manages the water from Mendon Brook very well. The City has the ability to shut off the water intake during high flow periods and continuously monitors the brook water quality. However, despite the water being crystal clear in appearance, dissolved compounds still exist.

Following the 1909 typhoid epidemic, the City began adding chlorine to its system in 1910. Since that time water borne illnesses have been essentially eliminated. In 1995, the City constructed a water filtration facility for removal of bacteriological and pathogen contamination. This facility also removes approximately 25% of dissolved organic compounds. Chlorine, in the form of sodium

hypochlorite, is added, following filtration, to maintain the large distribution system in a bacteria free condition. However, chlorine, when combined with trace organic matter, create numerous compounds collectively known as disinfection byproducts (DBPs). Federal and State regulations require public water systems to test for two “families” of these compounds, Trihalomethanes (TTHM’s) and Haloacetic Acids (HAA5’s). The City has always maintained TTHM concentrations below the MCL but has recently exceeded the standard for HAA5’s in the two locations referenced above.

ARE THERE HEALTH CONCERNS RELATED TO HAA5’S?

First, this is not an emergency. Drinking water containing HAA5’s, at this concentration, will not lead to any adverse short-term effects. The maximum contaminant level (MCL or standard) set by EPA is intended to protect against potential health effects. EPA defines its MCL as “*The maximum level of a contaminant allowed in drinking water*”. The EPA and CDC indicate that chronic exposure to certain DBP’s may increase the risk of cancer to a small percentage of the population over a lifetime of exposure. The VT DEC states, “*Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer*”.

In animal studies, some haloacetic acids have been associated with reproductive or developmental effects. Most testing and analysis on HAA5’s have been done on laboratory animals (rats and mice), at higher doses, with the data extrapolated to a lifetime exposure of a human without causing an undue occurrence of cancer. For those who wish more detail, there are studies available on the internet done by the Department of Health and Human Services’ National Toxicology Program. See [RoC Profile: Haloacetic Acids; 15th RoC 2021 \(nih.gov\)](#) and [Human Exposure - Report on Carcinogens Monograph on Haloacetic Acids Found as Water Disinfection By-Products - NCBI Bookshelf \(nih.gov\)](#), as well as several relevant data and information sheets by the CDC and EPA.

ARE DISINFECTION BYPRODUCTS NEW IN PUBLIC WATER SYSTEMS?

No. Just about any water system which uses surface water as a source (such as a lake, river or brook) and also disinfects with an oxidizing agent (such as chlorine) will create DBP’s. These compounds have been common in drinking water (and in much higher concentrations) since the early 1900’s when chemical disinfection was introduced. Filtration of surface water sources, now required for most all surface water supplies (except for Boston, New York City and a few others) for removal of biologic contamination, also reduces the dissolved natural organic matter, which, in turn, reduces the creation of DBP’s. Rutland’s very effective slow sand water filtration facility reduces this precursor material, thus reducing potential DBP’s. However, the City has recently exceeded the HAA5 standard in two locations.

WHAT IS THE CITY DOING TO LOWER THE HAA5 CONCENTRATION?

The City takes any exceedance of water quality standards seriously. We are actively working on addressing this issue and are coordinating with the Vermont Department of Environmental Conservation. The City had an engineering study done several years ago which examined options to reduce the level of DBP’s. In addition, the City has recently received a technical assistance grant from EPA to further study changes in operation and/or facility additions which will address this issue. That work has started. This is not an uncommon problem nationally (74% of the US population receives drinking water from surface water supplies) and the alternative solutions are well known. However, a fresh examination of the alternatives will help guide future decision making.

Potential alternatives are: 1) reducing the level of chlorine, 2) changing the type of disinfection from sodium hypochlorite to monochloramine (a less reactive form of chlorine) or 3) adding granulated activated carbon filtration to the treatment process. The cost range between these varies from negligible to huge.

As an initial measure, the City has already slightly lowered the level of chlorine concentration in the distribution system, while still maintaining a necessary level for disinfection in all parts of the system. Additional HAA5 samples are being taken to evaluate the effectiveness of this change. Beyond that, the City will be evaluating the changes at the filtration facility mentioned above, in addition to any system operation changes which result from the study.

CAN I USE A HOME FILTER TO REDUCE DBP'S?

Home filters can reduce DBP's if properly installed and maintained. There are various types of home water filters, including reverse osmosis and granulated activated carbon which are effective. However, the City does not advocate that home filters are necessary. Consumers who choose to add a home filter are advised to check on the product's effectiveness for this purpose and carefully follow the manufacture's recommended operation and maintenance procedures. Massachusetts DEP has an on-line resource for home filters at <https://www.mass.gov/service-details/home-water-devices-point-of-entry-and-point-of-usedrinking-water-treatment>

WHERE CAN I GET ADDITIONAL INFORMATION?

You can contact the Department of Public Works at 802-773-1813 or at PO Box 969, Rutland, VT 05701 with any questions. Regarding your personal health concerns, we recommend contacting your personal health care provider.

WATER FILTRATION FACILITY



Please share this information with all the people who drink this water, especially those who may not have received this notice directly (for example, 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.