

City of Flint
Water System Update
With
Questions & Answers



February 16, 2015



CITY OF FLINT

Department of Public Works

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TO: Flint City Residents
FROM: Howard Croft, DPW Director
RE: **Water Questions**
DATE: February 16, 2015

Over recent weeks the City of Flint has taken a number of measures to increase both the quality of water and the availability of information. Monthly Operating Reports are posted online approximately 15 days following the end of each month, a summary report is also posted with additional information of utility functions, and the City has increased the level of testing being performed on the water.

A nationally recognized vendor (Veolia North America) has been contracted to provide a detailed overview of City procedures and to make recommendations where they see areas of improvements.

The following questions and answers are provided for all interested parties, and are intended to provide transparent, detailed, and updated information that is pertinent to the City of Flint's water system.

City of Flint – Questions and Answers

Is it currently safe to drink City of Flint water?

Yes. Water from the City of Flint meets all of the EPA regulatory standards of the Safe Drinking water Act.

What can you say about the quality?

The City of Flint is committed to providing high quality drinking water to residents and businesses in the community, and has taken every precaution to ensure the water quality meets guidelines for safe drinking water. To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. In addition the Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The City of Flint tap water meets the guidelines set by both entities.

What is considered to be a contaminant?

Contaminants that may be present in water include microbial contaminants such as viruses and bacteria, and inorganic contaminants such as salts and metals, which can occur naturally. Pesticides, herbicides, organic chemical contaminants and radioactive contaminants could also be present.

It's important to note that **drinking water, including bottled water** may reasonably be expected to contain at least small amounts of some contaminants. But the presence of contaminants does not necessarily indicate that the water poses a health risk.

Will these contaminants make people sick?

The EPA requires that every water report must contain language addressing the fact that some people have comprised immune systems or conditions that make them more vulnerable to contaminants in drinking water than the general population.

A few examples are, an individual with a compromised immune system such as someone undergoing chemotherapy or an organ transplant, a person with HIV/AIDs or other immune system disorders. Some elderly people and infants can be particularly at risk from infections. These individuals and parents of infants should seek advice from their health providers. It's important to understand that this is the case with all public drinking water. It's not unique to water from the Flint River.

How often does the City monitor water quality?

The City monitors its water on a daily basis to assure that water quality remains within established guidelines. With the variances in water temperature, and the leakage and infiltration problems arising due to failure of parts of the distribution system, water quality did exceed, for a time, some of the established guidelines. This resulted in the issuance of the recent notices to the public. Once it was learned that some guidelines were not being met, the City's immediate focus was to bring water quality back within guidelines. The efforts taken to address non-compliance included increasing water flow through valve replacements and hydrant flushing and optimizing treatment processes.

What were the causes of increased levels of bacteria (including fecal) levels that I read about? Have the causes been sufficiently addressed? If not what needs to be done to prevent this from happening again?

As is the case with most systems which treat surface water, many factors contributed to the

environment which allowed bacteria to proliferate. One of the main factors in our case is that when water travels through the 600 miles of the City's distribution mains it will, at times, in certain areas of the city, reside in the system for different periods of time. Water purchased from the Detroit Water & Sewage Department is drawn from Lake Huron, chlorinated, and then it travels over 60 miles to reach the City. By the time the water reaches Flint it is stable and capable of withstanding this type of residency time with the system. Water drawn from the Flint River, specifically in summer months when the temperature is fluctuating, is more susceptible to being impacted by variables such as high residency times and increased chemical reaction. Over the recent three months the residency time of water in the system has been reduced to approximately one week.

The Department of Environmental Quality (DEQ) requires that a minimum of 100 tests be performed monthly for chlorine residuals at various locations throughout the system. When residual levels are too low, it creates an environment in which bacteria such as fecal coliform can grow. After switching sources, we encountered testing sites in June 2014 that were consistently returning low residual levels. Several of these sites became areas that total coliform was eventually detected and ultimately "boil water" notices were issued. A significant cause of this is attributed to aged infrastructure which includes broken valves.

The necessary repairs and adjustments have been made to bring bacteria to acceptable levels with the exception of one test site -- the 2500 block of Flushing Road, where low residual levels continue. The City expects and is actively searching for valve issues. The engineering firm LAN & Potter Consulting is working to develop a hydraulic model of the distribution system and have the ability to use unidirectional flushing that will assist in addressing areas where residual levels are low.

The City has done internal testing recently that shows all eight sites currently well underneath the Maximum Contaminant Level and the next official testing date is due to the DEQ by March 1st, 2015.

It was recently announced in the news that Governor Snyder gave Flint \$2 million to fix the water problems? Is this true?

Yes. Under the state's Financially Distressed Cities, Villages and Townships Grant Program, Flint was awarded \$2 million to help address some of the problems associated with an aging water distribution system. While the City of Flint is very appreciative of the grant, it's going to take a substantially greater amount to fully address the improvements needed.

The grant will cover two significant projects, one, to decommission the incinerator that will result in ~\$400,000 in savings annually to the sewer fund and two, a complete leak detection performed on all of the large transmission mains in the City that will reduce water loss, thereby creating a savings in the water fund.

This issue did not happen before the switch from Detroit water to Flint water. Why now?

Switching to the Flint River has highlighted underground inconsistencies in the distribution system that have existed for decades. Over the last few years, the City has engaged in the development of a more effective and consistent preventative maintenance program and a Capital Improvement Plan that will result in a more reliable water distribution center over time.

Was it known prior to the switch from Detroit water to Flint water that there would be problems managing certain bacteria levels?

It was understood that the Flint River would be subject to variations due to temperature changes, rain events and would have higher organic carbon levels than Lake Huron water and would be more difficult to treat. These facts were presented to and weighed by licensed staff, LAN engineering consultants and the DEQ. It was determined that Flint has the equipment and the capacity to meet the demands of treating river water.

So in the majority of cases, it's safe to drink Flint tap water?

Yes, as safe it possibly can be. However if a person has a compromised immune system then he/she should consult with her/his physician first. It is also safe to bath and brush your teeth using the water.

What about the "hardness" of the water?

The Flint River is a harder water source than water drawn from Lake Huron. Hardness is classified as having a higher mineral content than "soft water", with the main concentration being calcium and magnesium. Water hardness is not considered by the EPA to be a health hazard.

Water hardness has been known to impact things such as cleaning tasks such as laundry, dishwashing, bathing personal grooming, and has also been associated with some forms of skin irritation such as eczema.

What are the public reporting requirements for these sorts of problems, and has the City met those requirements? What can be done to communicate useful information about a public health threat in a timelier manner?

The EPA 2010 "Revised Public Notification Handbook" has a specific breakdown of the elements required in public notifications and includes usable templates. The EPA has three different tiers associated with community water systems (CWS), each with specific timeframes and requirements that trigger upon issuance of the violation.

- **Tier 1.** CWS must provide **public notification within 24 hours of a violation** and continue this as directed by the primary agency.
- **Tier 2.** CWS must provide **public notification within 30 days of a violation** and continue this every three months until the violation is resolved
- **Tier 3.** CWS must provide **public notification within one year** and the EPA recommends repeat occurrences be provided in an annual notice

The current violation is classified as a tier 2 violation and was issued December 16, 2014.

Besides the home notifications, where can I find official communications and any updates on the Flint water issue?

The City posts information on the City of Flint website at www.cityofflint.com. There is a special section dedicated to addressing Flint water concerns and providing up-to-the-minute updates. In

addition, updates can be found on Flint's Facebook page and citizens may also call the Flint Water Plant & Facilities at 810-787-6537 with questions.

If the water is ok to drink, why did GM stop using the water?

General Motors has been A great partner to the city for many years and when they recognized that an elevated level of chloride in the water was having an impact on a specific machining process they requested permission to transfer water delivery for that specific process to Flint Township. This represents only 10% of the water purchased and used by GM at the entire site. The remaining 90% of their water usage including all of the drinking water for GM employees is still purchased from the City of Flint.

Respectfully Submitted,

Howard D. Croft
Public Works Director