

MEMORANDUM

TO: Committee of the Whole

FROM: Erin Mahoney, Commissioner Environmental Services

DATE: March 20, 2014

RE: **Toronto's Program to Control Lead in its Drinking Water System and Potential Impacts to York Water System**

This memo provides information regarding the City of Toronto's program to control lead in its drinking water systems, potential impacts to the York Water System and staff initiatives on communications and monitoring programs with municipal partners.

Toronto implements provincially mandated Lead in Drinking Water Mitigation Strategy following 2007 Community Lead Testing Program

Sampling and testing for lead in drinking water system plumbing was introduced in 2007 by the Ministry of the Environment under the Community Lead Testing Program (O. Reg. 170/03). Municipalities operating Large Municipal Residential drinking water systems with 10 per cent or more results exceeding 10 micrograms per litre for lead during specified sample periods were required to prepare a Lead in Drinking Water Mitigation Strategy.

Toronto's Lead in Drinking Water Mitigation Strategy uses a combination of residential faucet filtration, chemical dosing at the water treatment plants (corrosion control) and a lead line replacement program. For the Corrosion Control Plan, Toronto conducted pilot studies using phosphates to determine effectiveness and required dosages to prevent lead from pipes leaching into drinking water.

Endorsed by Toronto Public Health and approved by the Ministry of the Environment, phased-in chemical addition expected to have minimal impacts to York Water System

Corrosion control by phosphate addition at Toronto's water treatment plants is scheduled to start at the R. L. Clark plant in March 2014, with the remaining plants being included by mid-year. As the Region purchases wholesale water from Toronto, communities in York Region receiving Toronto water may be affected by the implementation of its Corrosion Control Plan. Those

communities include: Markham, Stouffville, Richmond Hill, Vaughan, as well as smaller volumes to Aurora, Newmarket, East Gwillimbury, Kleinburg and King City.

Regional staff will continue to work and communicate with Toronto Water as implementation proceeds. Coordinated sampling within the York Water System will be initiated once the program begins. Regional staff do not anticipate any impacts to the York Water System as a result of Toronto's Corrosion Control Plan.

The phosphate to be used is a food grade additive. There are no known negative health impacts associated with the addition of phosphate to drinking water under the proposed corrosion control plan. York Region Community and Health Services Department has reviewed the program and agrees with Toronto Public Health's endorsement.

For institutional, commercial and industrial (ICI) customers that rely on York Region's municipal water for commercial heating or cooling, manufacturing or other use, a communication advising them of the phosphate addition has been sent so that they may determine any potential impacts to their systems (see *Attachment 1*).

Communication on Corrosion Control Plan is a joint venture with local municipalities

Environmental Services has instituted a joint communications and data sharing plan with the local municipalities. An information sheet (see *Attachment 2*) and York.ca update have been developed to address questions regarding Toronto's Corrosion Control Plan and its potential impacts. Ongoing communication with local municipal staff is being coordinated by Region staff.

Erin Mahoney, M. Eng.
Commissioner of Environmental Services

LM/BB

Attachments (2)

#5390426

February 28, 2014

Dear Industrial, Commercial, Institutional Customer:

Re: City of Toronto Implementation of corrosion control and Information for industrial, commercial and institutional water users

In 2007, Ministry of the Environment, under the Community Lead Testing Program, introduced sampling and testing for lead in drinking water system plumbing (O. Reg.170/03). York Region and its local municipalities had excellent results under the Lead Testing Program and therefore have no requirement to implement a corrosion control plan. As a result of the Lead Testing Program, the City of Toronto is required to implement a Corrosion Control Plan, and has prepared a plan for their drinking water systems. City of Toronto's plan has been approved by the Ministry of the Environment and endorsed by Toronto Public Health.

York Region purchases wholesale water from Toronto. The communities of Markham, Whitchurch-Stouffville, Richmond Hill, Vaughan receive water from Toronto, as well as smaller volumes of Toronto water are in the drinking water supply to Aurora, Newmarket, East Gwillimbury, Kleinburg and King City. Some industrial, commercial and institutional customers in these communities receive water from Toronto and may be affected by implementation of the corrosion control plan.

Toronto's Corrosion Control Plan includes phosphate dosing at its water treatment plants starting in March 2014. Based on results of comprehensive pilot studies, the initial dosage will be three mg/L phosphate. It is expected that York Region customers could expect to see up to one mg/L of phosphate in the water supply. Once the initial conditioning period of approximately two years is complete, the dose will be adjusted to maintenance levels.

The majority of users will not notice a change to their water. However, if you rely on municipal water for commercial heating or cooling, manufacturing or another use, you should contact your heating, or cooling supplier or process consultant to discuss whether slight adjustments may be needed.

To learn more about the City of Toronto's Corrosion Control Plan, please visit their website at <http://ow.ly/u1gm4>

For more information on York Region water quality, please visit www.york.ca/drinkingwater

Sincerely,



Brett Bloxam
Director, Operations Maintenance and Monitoring
The Regional Municipality of York
Environmental Services Department

Attachment: *York Region Corrosion Control Information Sheet*



Corrosion Control Information Sheet

Prior to the mid-1950s, the service pipe delivering water from the street into each home and business was commonly made of lead. Lead was also used to solder pipes together before 1990, and can be found in leaded-brass fixtures, such as faucets and valves. As these items corrode or break down, they can cause lead concentrations in drinking water to increase. Lead can affect health and has the most impact on fetuses, infants and children under six years old.

The Ministry of the Environment, under the Community Lead Testing Program, introduced sampling and testing for lead in drinking water system plumbing in 2007 (O. Reg. 170/03). York Region and the City of Toronto participated in the lead sampling program. York Region and its local municipalities had excellent results and therefore have no requirement to implement a corrosion control plan. The City of Toronto is required and has prepared a plan to reduce lead in their drinking water systems.

To help provide a level of protection to all residents, in 2014, the City of Toronto will enhance its drinking water treatment process by adding phosphate. At an initial dose of three milligrams per litre (mg/L), phosphate will form a protective coating inside all pipes that will reduce the potential for lead to enter our tap water. This process is called corrosion control. Lead reduction in drinking water by corrosion control is approved by the Ministry of the Environment (MOE) under the *Safe Drinking Water Act*.

Treatment will start in the spring of 2014 at the R. L. Clark Water Treatment Plant in Etobicoke, with the City's other three water treatment plants being included by mid-year.

From the time of implementation, it will take up to two years for the phosphate to form the ideal level of protective coating throughout the city's entire network of pipes.

Following this period, York Region and Toronto Water will continuously monitor and adjust water treatment with a planned maintenance dose of one to two mg/L of phosphate.

The phosphate to be used in Toronto's water treatment process is a food-grade additive derived from a natural source of mineral rock. Phosphate is naturally present in food, such as milk, nuts and beef, and will have no impact on the taste or odour of our drinking water.

Prior to creating the Corrosion Control Plan, Toronto Water completed a comprehensive study to review the impact of lead corrosion on their drinking water. This included evaluating lead reduction strategies, such as lead pipe replacement and other corrosion control methods including pH adjustment. Toronto Water also completed an in-depth analysis of other municipalities that have implemented corrosion control measures, including Winnipeg, London, Chicago and Detroit.

Toronto's Corrosion Control Plan has been adopted by Toronto City Council and is supported and endorsed by Toronto Public Health as a safe way to reduce the amount of lead in tap water and the health risks associated with lead in drinking water. York Region Community and Health Services has reviewed the program and agrees with Toronto Public Health's endorsement.

Frequently Asked Questions:

Learn more about Toronto's plan and how corrosion control will help to reduce the potential for lead in tap water by visiting the City of Toronto's website: <http://ow.ly/u1gm4>

For more information on York Region water quality, please visit www.york.ca/drinkingwater

