

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON WEDNESDAY, SEPTEMBER 9, 2015</b>
<b>FROM:</b>	<b>JOHN LUCAS, P.ENG. DIRECTOR - WATER AND WASTEWATER</b>
<b>SUBJECT:</b>	<b>PROPOSED REGULATORY AMENDMENTS TO UPDATE THE ONTARIO DRINKING WATER QUALITY STANDARDS, AND TESTING AND REPORTING REQUIREMENTS</b>

**RECOMMENDATION**

That on the recommendation of the Director - Water and Wastewater, the following report regarding proposed changes to the Ontario Drinking Water Quality Standards, and the testing and reporting requirements for Ontario Drinking Water Systems **BE RECEIVED** for information.

**BACKGROUND**

Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards (O. Reg. 169) sets maximum acceptable concentrations for 158 microbiological, chemical, and radioactive substances in Ontario’s municipal drinking water. For example, *E. coli* bacteria must not be detectable in any drinking water sample, and nitrate concentrations must not exceed 10 mg/L (milligrams per litre). These standards are based upon Health Canada’s Guidelines for Canadian Drinking Water Quality.

Ontario Regulation 170/03 - Drinking Water Systems, (O. Reg. 170) sets operational requirements for drinking water systems in Ontario. For example, O. Reg. 170 prescribes sampling and testing frequencies for substances listed in O. Reg. 169.

In order to incorporate the most current research, Health Canada periodically reviews and updates its Guidelines for Canadian Drinking Water Quality. Likewise, O. Regs. 169 and 170 undergo periodic amendments to maintain alignment with the Health Canada Guidelines. The Government of Ontario is currently in the process of making such amendments to both O. Reg. 169 and O. Reg. 170. As part of that process, the proposed amendments have been posted on Ontario’s Environmental Registry for a 45 day period from August 14, 2015 to September 28, 2015. The purpose of the posting is to solicit comments from interested parties that will be reviewed to determine whether the proposed amendments could benefit from further modification.

**DISCUSSION**

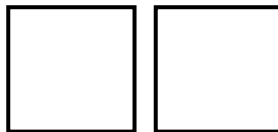
**Proposed Changes for Large Municipal Residential Systems**

**Existing Standards**

The proposed amendments will strengthen the existing standards for the following four (4) substances:

- Arsenic (from 0.025 mg/L to 0.010 mg/L)
- Carbon tetrachloride (from 0.005 mg/L to 0.002 mg/L)
- Benzene (from 0.005 mg/L to 0.001 mg/L)
- Vinyl chloride (from 0.002 mg/L to 0.001 mg/L)

In addition, the amendments will remove the following thirteen (13) pesticides from the current standards. These thirteen chemicals are no longer in commercial use; DDT, for example, was banned in Canada and the U.S. in 1972. These pesticides have been de-listed from the



Canadian Drinking Water Quality Guidelines, and have not been detected in drinking water samples in Ontario for at least ten years.

- Aldicarb
- Aldrin + Dieldrin
- Bendiocarb
- Chlordane
- Cyanazine
- Dichlorodiphenyltrichloroethane (DDT) + metabolites
- Dinoseb
- Heptachlor + Heptachlor Epoxide
- Lindane
- Methoxychlor
- Parathion
- Temephos
- 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)

### **New Standards**

The proposed amendments will adopt new standards for four (4) substances not currently listed:

- Chlorate (1 mg/L)
- Chlorite (1 mg/L)
- 2-methyl-4-chlorophenoxyacetic acid [MCPA] (0.1 mg/L)
- Haloacetic acids [HAAs] (0.080 mg/L)

The amendments will also simplify the reporting and resampling requirements for some substances, and provide phase-in periods for the changes to take effect.

### **Impact on City of London Operations**

The City of London receives its drinking water from both the Lake Huron Primary Water Supply System (LHPWSS) and the Elgin Area Primary Water Supply System (EAPWSS). These systems are responsible for providing water that meets the Ontario Drinking Water Quality Standards. As a result, the testing that the City of London is required to perform is limited to microbiological samples and chlorine residuals, as well as fluoride, nitrates, nitrites, trihalomethanes (THMs), and sodium. In addition to meeting these regulatory testing requirements, the City of London performs discretionary annual sampling for an additional 101 regulated and non-regulated parameters.

The only amendment that will affect London's regulatory testing requirements is the proposed new standard for haloacetic acids. HAAs, like THMs, are a group of compounds that can form when the chlorine used to disinfect drinking water reacts with naturally occurring organic matter in the water. The City of London is currently required to perform quarterly sampling for THMs. Quarterly sampling for HAAs will need to be included starting in 2017.

With respect to the strengthened standards for arsenic, carbon tetrachloride, benzene, and vinyl chloride, ongoing testing has shown that the concentrations of these substances in London's drinking water are extremely low, and are typically less than the limits that are detectable by our contracted laboratories.

The new standards for chlorate and chlorite will not impact the City of London. These compounds are by-products of drinking water disinfection with chlorine dioxide, which is not used by the City of London or either of the Primary Water Supply Systems. Only four water systems in Ontario use chlorine dioxide for water disinfection, and only these four systems will be required to test for chlorate and chlorite.

The new standard for 2-methyl-4-chlorophenoxyacetic acid (MCPA) is not expected to impact the City of London. Although the City of London will not be required to test for MCPA, it will be included in London's discretionary sampling. MCPA is a common herbicide in the agricultural sector. Ongoing testing has not detected any pesticides or herbicides in the City of London's drinking water, and it is anticipated that MCPA will likewise not be detected.

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<b>SUMMARY</b>
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The Government of Ontario is proposing amendments to Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards, and Ontario Regulation 170/03 - Drinking Water Systems. The proposed amendments have been posted on Ontario's Environmental Registry for review.

These amendments will update the Ontario Drinking Water Quality Standards and testing requirements in order to reflect Health Canada's most current Guidelines for Canadian Drinking Water Quality.

The proposed regulatory amendments have been reviewed, and are not expected to significantly impact the operation of the City of London Water System.

<b>PREPARED BY</b>	<b>RECOMMENDED BY:</b>
<b>JOHN SIMON, P.ENG.</b> DIVISION MANAGER, WATER OPERATIONS	<b>JOHN LUCAS, P.ENG.</b> DIRECTOR - WATER AND WASTEWATER
<b>REVIEWED &amp; CONCURRED BY:</b>	
<b>JOHN BRAAM, P.ENG.</b> MANAGING DIRECTOR OF ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER	

CC:

- Roland Welker – Division Manager – Water Engineering
- Dan Huggins - Water Quality Manager
- Fatih Sekercioglu – Safe Water Manager – Middlesex-London Health Unit