

Annual Statement from the Chair of ODWAC for 2017-2018

I am pleased to provide my third annual report highlighting the Ontario Drinking Water Advisory Council's accomplishments and activities for the period May, 2017 to September, 2018, as summarized under three areas of focus:

- (1) Ministry of the Environment, Conservation and Parks (MECP)
Regulatory Changes Related to Drinking Water;
- (2) Ontario Drinking Water Quality Standards (ODWQSs) under Consideration; and
- (3) Key Drinking Water Policies and Issues under Active Discussion.

(1) MECP Regulatory Changes Related to Drinking Water

Since 2015, the MECP has posted two Regulation Decision Notices ([012-4213](#) ^{Reference 1}, and [012-8244](#) ^{Reference 2}) on the Environmental Registry, outlining a comprehensive set of changes to five regulations (and supporting documents) under the *Safe Drinking Water Act, 2002*.

These changes are consistent with the Council's advice to the MECP and the Minister. The Council notes the following decisions that are key to continuing improvements and safeguards for drinking water quality in Ontario, which came into effect during this 2017-2018 reporting period:

Changes to ODWQSs

- A revised ODWQS for arsenic of 0.01 mg/L came into effect on January 1, 2018.

Changes to the Regulation Pertaining to the Monitoring of Lead (Pb) in Schools, Private Schools and Child Care Centres

Since 2007, the MECP has taken a proactive and precautionary approach in reducing exposure of children to lead through drinking water in Ontario's schools and child care centers. The latest amendments in 2017 strengthen requirements for all schools (private and public) and child care centres for sampling, flushing of plumbing, reporting of test results exceeding the ODWQS of 0.01 mg/L, corrective actions and records retention. These new requirements will ensure that, over time, all drinking water fountains and taps used to prepare food in these facilities that are used by or for Ontario children and students, will be tested and that appropriate corrective actions are taken as required.

Specifically on July 1, 2017 the new flushing requirements for lead at schools, private schools, and day cares took effect. The following new requirements apply to all facilities (including those co-located within schools):

- Ensure that samples are collected from every drinking water fixture that has not yet been sampled under O. Reg. 243/07;
- Multiple sets of samples can be collected at a facility on the same day;
- New requirements to sample at all drinking water fixtures supersede existing reduced sampling schedules; and
- Allowing the use of NSF International-certified filters for lead removal to eliminate the flushing requirements.

It should be noted that Health Canada has consulted on, but not finalized, a proposed more stringent Canadian Drinking Water Quality Guideline (CDWQG) for lead of 0.005 mg/L. As part of their proposal, they recommended testing for lead in drinking water in schools and day cares.^{Reference 3} Ontario has already implemented measures that fulfill Health Canada's recommendations.

(2) ODWQs under Consideration

ODWQs are generally developed through a national process led by Health Canada; however, the MECP may also develop their own for Ontario, as deemed necessary. Ontario is an active participant in the national process and both ODWAC and MECP staff review proposed CDWQGs before they are considered for adoption as ODWQs. As well, ODWQs that are new or have a change in numeric value are posted on the Environmental Registry for public comment, and comments are considered prior to finalization. ODWQs currently under consideration by the Council are listed below and categorized in terms of their status as follows:

CDWQGs Currently Under Development by Health Canada

The following CDWQGs were posted for national consultation by Health Canada from 2016-2018, and are currently under consideration by the Council for adoption as ODWQs, Guidelines, or Objectives:

- Perfluorooctane Sulfonate (PFOS) (June, 2016)
- Perfluorooctanoic Acid (PFOA) (June, 2016)
- Manganese (August, 2016)
- Enteric Protozoa (October, 2016)
- Lead (January, 2017)
- Enteric Viruses (October, 2017)
- Uranium (October, 2017)
- Copper (March, 2018)
- Guidance on the Use of Quantitative Microbial Risk Assessment (March, 2018)
- Strontium (May, 2018)
- 1,4-dioxane (September, 2018)

Final CDWQGs

Health Canada has reaffirmed the existing CDWQGs for:

- Chromium (0.05 mg/L) (August, 2018)
- Bromate (0.01 mg/L) (August, 2018)
- Cyanobacterial Toxins (0.0015 mg/L of total microcystins) (September, 2018)

Health Canada also revised its Operational Guideline for:

- pH (*range changed from 6.5-8.5 to 7.0-10.5*) (August, 2015)

The Council has been evaluating these Final CDWQGs and the Operational Guideline for pH and will be providing letters of advice to the Minister on their potential adoption as ODWQs, Guidelines, or Objectives.

The Council also completed its review and has provided its advice to the MECP on revising the following ODWQS:

- Benzo(a)pyrene (*from 0.00001 mg/L to 0.00004 mg/L*)

(3) Key Drinking Water Policies and Issues under Active Discussion

The Council began deliberations on three major files that will impact policy direction in drinking water monitoring and safety: Health Canada’s proposal for a more stringent CDWQG for lead; MECP’s proposal for a new policy to determine treatment requirements for municipal drinking water systems, which have or may be deemed to be subject to groundwater under the direct influence of surface water (known as GUDI in Ontario); and MECP’s update of the “Procedure for the Disinfection of Drinking Water in Ontario”, which prescribes drinking water treatment requirements for Ontario’s drinking water systems.

Proposed CDWQ Guideline for Lead

Health Canada consulted on a more stringent CDWQG for lead ^{Reference 4} from January 11 to March 15, 2017, and their primary recommendation, from the Document for Public Consultation, is revising the Maximum Acceptable Concentration (MAC) as follows:

“In considering both treatment and analytical achievability and the health risks associated with exposure to lead from drinking water, the Federal-Provincial-Territorial Committee on Drinking Water has proposed a MAC of 0.005 mg/L (5 µg/L) for total lead in drinking water, based on a sample of water taken at the consumer’s tap, using the appropriate protocol for the type of building being sampled. As this value exceeds the drinking water concentration associated with neurodevelopmental effects in children, every effort should be made to maintain lead levels in drinking water as low as reasonably achievable (or ALARA).”

The current ODWQS for lead is 0.01 mg/L, and the Council has been undertaking a comprehensive review of Health Canada’s proposal and Ontario’s regulatory framework and experience to date including:

- review of the science policy approach for setting a standard for a non-threshold neurodevelopmental and behavioural toxicant such as lead;
- reviewing Ontario-specific exposures of lead in drinking water and the risks to sensitive sub populations (e.g. children); and
- review of ALARA and appropriate risk reduction measures for lead in drinking water, including:
 - corrosion control for municipal drinking water systems;
 - lead service line replacement as part of urban infrastructure renewal;
 - application of point of use (POU) filters; and
 - review of Ontario’s current regulatory approach for requiring the development of lead reduction strategies by municipalities, schools and day nurseries.

The Council has made significant progress since 2016 and key milestones are summarized below:

- March, 2016 The Council received Health Canada's draft proposal for lead from the MECP's representative on the Federal-Provincial-Territorial Committee on Drinking Water.
- November, 2016 The Council and the MECP organized a meeting with international experts on lead in drinking water in Ottawa.
- February, 2017 The Council and the MECP held a Lead Strategy Workshop ^{Reference 5}
- March, 2017 The Council and the MECP participated in a Lead in Drinking Water Webinar sponsored by the Canadian Environmental Law Association (CELA) ^{Reference 6}
- May, 2017 The Council held discussions with the Ontario Water Works Association (OWWA) and the Ontario Municipal Water Association (OMWA), including:
- (1) presentations at the Ontario Water Conference: May 2016 ^{Reference 7} and May 2017 ^{Reference 8}
 - (2) the Chair's interview by OMWA which was provided to its membership ^{Reference 9}
- May, 2018 The Council held discussions Dr. Bruce Lanphear, Simon Fraser University. Dr. Lanphear is an internationally recognized expert in the field of environmental toxicology and children's health. Health Canada relied extensively on Dr. Lanphear's publications and expertise related to cognitive deficits associated with blood lead concentrations <10 µg/dL in children and adolescents.

Ground Water under the Direct Influence of Surface Water (GUDI)

The MECP is updating one of its key guidance documents, the GUDI Terms of Reference (ToR) dated October, 2001. This document provides guidance to municipal drinking water systems to determine if a well supply should be treated as groundwater under the direct influence of surface water (GUDI). Due to the progress in the science related to the monitoring of groundwater, the MECP has worked with system owners, consultants, and academia on an approach that is more transparent, and uses the latest science to promote better decision-making for groundwater source treatment requirements. The MECP has made a number of presentations on the proposed revisions to the existing ToR proposal, both publically and to Council, from a period spanning 2012 to 2018. ^{Reference 10}

As part of ODWACs review it was agreed that additional discussion was needed with scientists that have specific expertise in pathogens and their presence and detection methods in groundwater. As such a meeting with international experts was held in July, 2018. In attendance were:

Dr. Jennifer Clancy, Environmental Science, Policy & Research Institute, Inc.
Dr. Ron Hofmann, University of Toronto
Dr. Steve E. Hrudey, University of Alberta
Ms. Stephanie McFadyen, Health Canada
Dr. Joan Rose, Michigan State University

Also in attendance were MECP staff and staff from the Canadian Water Network (CWN) who also facilitated the meeting.

The Council continues to review the MECP's proposal to ensure it meets the stated outcomes and that it provides equivalent or superior public health protection for Ontario's municipal ground water systems.

Update of the Procedure for the Disinfection of Drinking Water

The ministry's "Procedure for the Disinfection of Drinking Water in Ontario" is a document referenced in Ontario Regulation 170/03 that prescribes the treatment requirements for primary and secondary disinfection of drinking water. This document is cornerstone to the drinking water treatment system approval process used by the ministry as well as its compliance programs. This document was last revised June, 2006 and is being updated with new information on treatment technologies that has become available over the last decade. The Council is currently reviewing the proposal.

In closing, the Council is dependent on the broad expertise and efforts of its members and I am pleased to note that in 2018 Council member Mr. Nick Benkovich was the recipient of the George Warren Fuller Award. This award, given by the Ontario Water Works Association, recognizes recipients for their distinguished service to the water supply field in commemoration of the sound engineering skill, brilliant diplomatic talent and constructive leadership which characterized the life of George Warren Fuller.

The Council continues to be actively engaged in a broad range of drinking water standards and policies ensuring Ontario's drinking water safety net continues to provide the highest level of protection based on the latest science and technology developments.



Jim Smith, Chair
Ontario Drinking Water Advisory Council

References:

1. EBR Regulation Decision Notice (012-8244) on “Updates to Ontario's Drinking Water Quality Standards and other regulations of the *Safe Drinking Water Act, 2002*, related to: lead in schools and day nurseries; drinking water systems; drinking water testing services; and drinking water operator certification”.
2. EBR Regulation Decision Notice (012-4213) on “Regulatory Amendments to Update Ontario Drinking Water Quality Standards, and Testing and Reporting Requirements”.
3. Health Canada’s recommendations for lead monitoring for schools, multi-dwelling residences and large buildings
4. Health Canada’s “Lead in Drinking Water Document for Public Consultation”, January, 2017
5. ODWAC-MOECC Strategy Workshop on Pb (Lead)
6. CELA’s Lead in Drinking Water Webinar - Sharing Details about Ontario’s Response
7. ODWAC: A Second Decade of Progress: Presentation to OWWA / OMWA / OWWEA Ontario's Water Conference & Trade Show, Jim Smith, May 2016
8. Review of Health Canada's Proposal for a more Stringent Canadian Drinking Water Quality Guideline for Lead Presentation to OWWA / OMWA / OWWEA Ontario's Water Conference & Trade Show. Jim Smith, May 10, 2017
9. OMWA interviews Jim Smith, chair of the Ontario Drinking Water Advisory Council (ODWAC)
10. Determining Minimum Treatment Requirements for Well-Based Municipal Systems: Presentation to OWWA / OMWA / OWWEA Ontario's Water Conference & Trade Show, Monika Emelko (UWO) and Aziz Ahmed (MOECC), May 2016