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ODWAC

Ontario Drinking Water Advisory Council

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Annual Statement from the Chair of ODWAC

I am pleased to provide my third report highlighting the Ontario Drinking Water Advisory Council's (ODWAC) accomplishments and activities for the period October 2018 to December 2019, 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 (ODWQS), Operational Guidelines (OG), and Aesthetic Objectives (AO) under Consideration; and
3. Key Drinking Water Policies and Issues under Active Discussion.

1. MECP Regulatory Changes Related to Drinking Water

As noted in the previous report, MECP posted a Regulation Decision Notice: **012-4213** on the Environmental Registry, outlining a comprehensive set of changes. These changes are consistent with the Council's advice to the MECP and the Minister of the Environment, Conservation and Parks. All these

requirements have come into effect with one exception, which will come into effect / require reporting as of January 1, 2020:

- A new standard (ODWQS) for Haloacetic Acids (HAAs) and HAAs testing optimization rule for smaller systems.

2. ODWQS, OG, AO under Consideration

ODWQS, OG, AO 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 the proposed Canadian Drinking Water Quality Guidelines (CDWQGs) before they are considered for adoption as ODWQS, OG or AO. 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/OG/AO 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 2017-2019, and the Council will be providing letters of advice to the Minister of the Environment, Conservation and Parks on their potential adoption as ODWQS, OG, or AO:

Contaminant	Consultation End Date	New/Reaffirmed/Updated CDWQG	Proposed/Current CDWQG Value	Current ODWQS/OG/AO
<u>1,4-dioxane</u>	09-NOV-18	New	0.05 mg/L	None
<u>Chloramines</u>	25-JAN-19	Updated	None	3.0 mg/L
<u>Guidance on the use of Enterococci bacteria as indicators in Canadian drinking water supplies</u>	25-JAN-19	Updated	Guidance Document only	Not Applicable
<u>Barium</u>	15-FEB-19	Updated	2.0 mg/L	1.0 mg/L
<u>Natural Organic</u>	21-MAY-19	Not Applicable	Guidance Document only	Not Applicable

<u>Matter</u>				
<u>Total Coliforms</u>	21-MAY-19	Reaffirmed	None detectable per 100 mL in water leaving a treatment plant and in non-disinfected groundwater leaving a well	None detectable per 100 mL in water leaving a treatment plant and in non-disinfected groundwater leaving a well
<u>Cadmium</u>	21-MAY-19	Reaffirmed	0.005 mg/L	0.005 mg/L
<u>E. coli</u>	16-AUG-19	Reaffirmed	None detectable per 100 mL	None detectable per 100 mL
<u>Aluminum</u>	30-AUG-19	New	2.9 mg/L	None
<u>Aluminum OG</u>	30-AUG-19	New	0.050 mg/L	0.1 mg/L

Final CDWQG

The Council has been evaluating the following final CDWQG, published by Health Canada in 2018-2019, and will be providing letters of advice to the Minister of the Environment, Conservation and Parks on their potential adoption as ODWQS, OG, or AO:

Contaminant	Date Published	New / Reaffirmed / Updated CDWQG	CDWQG Value	Current ODWQS/OG/AO
<u>Bromate</u>	August, 2018	Reaffirmed	0.01 mg/L	0.01 mg/L
<u>Cyanobacterial Toxins</u>	September, 2018	Reaffirmed	0.0015 mg/L of total microcystins	0.0015 mg/L of microcystin LR
<u>Perfluorooctane Sulfonate (PFOS)</u>	December, 2018	New	0.0006 mg/L	None
<u>Perfluorooctanoic Acid (PFOA)</u>	December, 2018	New	0.0002 mg/L	None
<u>Lead</u>	March, 2019	Updated	0.005 mg/L	0.01 mg/L
<u>Enteric Protozoa: Giardia and Cryptosporidium</u>	April, 2019	Reaffirmed	Minimum 3-log (i.e., 99.9%) removal and/or inactivation of cysts and oocysts.	Minimum 3-log (99.9%) removal or inactivation of Giardia cysts, and minimum 2-log (99%) removal or inactivation of Cryptosporidium oocysts

<u>Enteric Viruses</u>	April, 2019	Reaffirmed	Minimum 4-log (i.e., 99.99%) removal and/or inactivation of enteric viruses	Minimum 4-log (i.e., 99.99%) removal and/or inactivation of enteric viruses
<u>Manganese</u>	May, 2019	New	0.12 mg/L	None
<u>Manganese AO</u>	May, 2019	Updated	0.02 mg/L	0.05 mg/L
<u>Manganese Treated Water Goal</u>	May, 2019	New	0.015 mg/L	None
<u>Strontium</u>	May, 2019	New	7 mg/L	None
<u>Uranium</u>	May, 2019	Updated	0.014 mg/L	0.02 mg/L
<u>Copper</u>	June, 2019	New	2 mg/L	None
<u>Guidance on the Use of Quantitative Microbial Risk Assessment (QMRA)</u>	July, 2019	New	Guidance Document only	None

The Council completed its review and provided its advice to the MECP, and the Minister of the Environment, Conservation and Parks on the following reaffirmed ODWQS:

- Chromium (0.05 mg/L)

The Council also completed its review and provided its advice to the MECP on the following updated CDWQG:

- pH (Operational Guideline range changed from 6.5-8.5 to 7.0-10.5)

3. Key Drinking Water Policies and Issues under Active Discussion

The Council continued deliberations on three major files that will impact policy direction in drinking water monitoring and safety: Health Canada's more stringent CDWQG for lead (0.005 mg/L); MECP's proposal for a new policy to determine treatment requirements for municipal wells, 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.

CDWQG for Lead

Health Canada published a revised CDWQG for lead on March 8, 2019, reducing the maximum allowable concentration (MAC) of lead in drinking water from 0.01 mg/L (set in 1992) to 0.005 mg/L. The Guideline statement is as follows:

“The maximum acceptable concentration (MAC) for total lead in drinking water is 0.005 mg/L (5 µg/L), based on a sample of water taken at the tap and using the appropriate protocol for the type of building being sampled. Every effort should be made to maintain lead levels in drinking water as low as reasonably achievable (or ALARA).”

The Council continued its comprehensive review of Health Canada’s CDWQG 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.

Per- and Polyfluoroalkyl Substances (PFAS)

Per- and Polyfluoroalkyl Substances (PFAS) represent a large group of synthetic chemicals that have been in use since the 1950s in industry and consumer products such as water, stain, or oil repellent coatings and

firefighting foams. These compounds are receiving considerable attention globally in terms of their presence in all environmental media. Health Canada finalized Canadian Drinking Water Guidelines for two PFAS (PFOS and PFOA) on November 29, 2018.

The MECP and ODWAC have held a number of discussions on these substances and the Council understands that the MECP believes that there is sufficient concern and supporting science to develop guidance for Ontario that goes beyond Health Canada's review. As such, Ontario developed interim drinking water guidance for PFAS, encompassing both PFOS and PFOA and additional PFAS compounds, which ODWAC is currently reviewing.

Groundwater 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 publicly and to Council, from a period spanning 2012 to 2019.

The Council has reviewed the proposal including holding discussions with external experts as noted in last year's report from the Chair. The Council has provided its technical comments and will continue to review this file as the MECP works towards finalizing the guidance document.

Update of the Procedure for the Disinfection of Drinking Water

The MECP'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 a cornerstone to the drinking water treatment system approval process used by the MECP as well as its compliance programs. It was last revised in June 2006 and is being updated with new information on risk assessment approaches for pathogens and treatment technologies that have become available over the last decade. The Council continues to review the proposal as it evolves.

In Closing

The Council is dependent on the broad expertise and efforts of its members and I am pleased to note that in 2019 Council member Ian Douglas, City of Ottawa, 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.

I wish to acknowledge the tremendous contributions of six members who have departed the Council over the last 18 months:

- Mr. Nick Benkovich
- Ms. Michèle Giddings
- Mr. Derek Hill
- Mr. Rod Holme
- Dr. Robert Lannigan
- Dr. Ken Roberts

I also note and welcome four individuals who have recently joined the Council:

- Ms. Michele Grenier
- Mr. Andrew Hallett
- Ms. Laura Meterer
- Dr. Howard Shapiro

The Council continues to be actively engaged in a broad range of drinking water standards and policies to help ensure Ontario's drinking water remains of the highest-level quality based on the latest science and technology developments. Together, the Council and the MECP are well positioned to tackle both the drinking water challenges and opportunities of the next decade.

Jim Smith, Chair
Ontario Drinking Water Advisory Council

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