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Federal-Provincial-Territorial Committee on Drinking Water
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**RE: Draft Guidelines for Canadian Drinking Water Quality, Arsenic**

The Canadian Water and Wastewater Association represents municipal water and wastewater utilities across the country. Our Drinking Water Quality Committee reviewed the draft guidelines on arsenic in drinking water. While the Committee agrees with the science presented in the document, and support a recommendation to target lower arsenic levels, we are concerned about the decision to lower the MAC to 5 parts per billion (ppb). Our position is that the potential marginal improvement in health outcomes achieved by lowering the MAC from the current level of 10 ppb do not justify the technical challenges and costs required to consistently meet this lower MAC, particularly for the smaller systems that would most likely be impacted.

Achieving a consistent arsenic level of 5 ppb will be challenging for many impacted utilities due to technological, financial, and operational factors, as outlined in more detail below. The utilities impacted by high arsenic levels tend to be small, and often remote systems, and, as such, face additional barriers and challenges due to location and available capital and operating and maintenance (O&M) budgets. We also note that testing water for arsenic at 5 ppb will create challenges for small and remote systems whether relying on sampling or hand held analyzers.

***Technological*:**
Arsenic is primarily present in groundwater sources, and the main technologies available for its reduction are Greensand filtration, ion exchange, and membrane filtration.

Each of these technologies has its own treatment challenges, as highlighted in the proposed guideline itself. Here are two examples:

- A need for oxidation and/or co-precipitation to reduce the level of arsenic, which represents operational complexity.
- These technologies are typically unable to reduce arsenic to the new proposed MAC level on their own. It is anticipated that reducing arsenic to a level of 5 ppb consistently will often require a two-stage process with the second stage acting as a polishing step. This represents additional capital and O&M costs, O&M effort, and generated process waste residuals that will require management.

***Financial and Operational*:**
As noted, many of the most impacted systems are small and remote. It is anticipated that the required enhancements to the treatment train to consistently meet the lower proposed MAC value will represent a significant capital investment and ongoing O&M costs. Many small groundwater systems have limited

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process waste residual disposal options which will further increase the associated costs and operational implications.

An additional challenge is related to recruiting and retaining experienced operations staff, which again is more challenging for small systems. A well operated treatment system is critical to consistently meeting target arsenic levels and maintaining public confidence in the water system. Some flexibility in how lowering arsenic levels is applied through this guidance document is proposed.

***Recommendations***

In brief, while the proposed guideline aims to enhance public health by reducing arsenic levels, it is essential to consider the technological, financial, and operational challenges associated with achieving and maintaining these levels. Flexibility in the application of the guideline and/or sampling requirements are critical to successful implementation. Based on the above noted considerations, CWWA recommends that the current MAC be maintained, and an operational guideline of 5 ppb be established instead to encourage utilities to target lower arsenic levels as feasible. Alternatively, a running quarterly average of the lower proposed MAC value, similar to guideline for trihalomethanes, is suggested to recognize the technological and operational challenges with consistently meeting this lower arsenic target level balanced with the potential improvements in health outcomes. This would limit the risk of an immediate non-consumption advisory and give time to utilities to correct the treatment performance accordingly.

Thank you for your consideration

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