



December 8, 2017

CDW Secretariat
Water, Air and Climate Change Bureau
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To: Committee on Drinking Water Secretariat

RE: Enteric Viruses in Drinking Water

CWWA's Drinking Water Quality Committee reviewed the proposed guidance on Enteric Viruses in Drinking Water. Overall, the Committee supports the conclusions of the document, noting that in essence it is not dissimilar to the previous version of the Guideline.

Committee members did pass on several observations and suggestions to strengthen the document.

The 4-log reduction requirement is still based on a rotavirus viral load of 1/100 L and a DALY/person/year of 1 in a million. As stated in the proposed document, the assumption of 1 infectious rotavirus particle per 100 L is reflective of a typical groundwater or a pristine surface water. In sources of lower quality, greater reduction would be required for the same risk based on this approach. The guideline mentions this, but in an indirect and vague manner, stating "*Depending on the source water quality, a greater log reduction may be required.*" This issue should be more explicit.

The use of rotavirus as a reference virus is acknowledged, in both the 2011 guideline and the current proposal, as not fulfilling the characteristics of an ideal reference virus. However, it is selected partly

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due to its widespread occurrence and to the particular vulnerability to rotavirus infection by children. It should be noted that in almost all Canadian provinces rotavirus vaccinations are part of routine infant vaccination schedules. For communities with consistently low compliance with recommended vaccination practice, higher log reduction may be required to achieve the same level of protection from waterborne enteric virus infection as communities with good vaccination coverage. Nowhere in this proposal nor the 2011 guideline is this connection discussed or mentioned explicitly, though an epidemiological study from the US is cited (Glass et al. 1996). The greater vulnerability of communities with inadequate vaccination coverage should be clearly mentioned.

Lastly, several virus concentration units are used throughout the proposal, without consistency, definition, nor relation to one another, including undefined units not even mentioned in the most recent (23rd) edition of Standard Methods for the Examination of Water and Wastewater. Yet if characterization of source waters includes enteric virus quantification, the units used to express the result have a strong influence on the conclusion. Units mentioned include virus/100L, virion/100L, MPN/1000L, IPIU/L, genomic copies/L (GC/L) and others. Some units include only infectious viral particles while others include all viral particles and fragments of a given type regardless of infectivity. It is acknowledged in the text and references cited therein that the noninfectious viral particles of a given serotype present in a sample may be 10 to 1000 fold higher than the concentration of infectious particles. Well defined and consistently used units are recommended, as well as guidance on the relationship between and interpretation of different units. It would also be useful to mention that the use of an ISO 17025 accredited laboratory or equivalent be used for analysis.