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September 13, 2019

Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Submitted to EPA directly via email: wqs-implmentation@epa.gov

Re: Comments on EPA's Draft Technical Support Document: Implementing the 2018 Recommended Aquatic Life Water Quality Criteria for Aluminum (EPA-823-D-19-001)

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to submit comments on the U.S. Environmental Protection Agency's (EPA) draft technical support document on implementing the recommended aquatic life water quality criteria for aluminum.

NACWA represents the interests of more than 300 public clean water utilities across the country that proudly uphold the call to public service by ensuring billions of gallons of the nation's wastewater is safe for human health and the environment. Aluminum presents a localized water quality challenge in select parts of the country including for NACWA's members in Oregon.

NACWA is generally supportive of EPA's recommended aquatic life water quality criteria for aluminum and the flexibility granted to state regulatory authorities when implementing the criteria. Specifically, NACWA commends EPA's departure from the static 1988 aluminum criteria and the acknowledgment that aluminum bioavailability depends on the site-specific water chemistry characteristics of pH, total hardness, and dissolved organic carbon (DOC) concentrations. Recommending states uses a range of these water quality input parameters in order to calculate the potential bioavailability of aluminum and potential toxicity to aquatic life is a positive reflection of an evidence-based scientific approach.

NACWA received some specific comments from its member, Clean Water Services in Hillsboro, Oregon. Staff at Clean Water Services have worked extensively on aluminum-related water quality issues and have some specific concerns with the draft technical support document and its implementation that NACWA is sharing here on behalf of all its member utilities.

Methodology Reflects the Worst-Case Scenario

The aluminum criteria and EPA's approach to implementation are driven by a worst-case scenario. The use of the biotic ligand modeling (BLM) assumes the 10%

worst water quality characteristics for aluminum and pairs it with the 90% highest water quality characteristics for aluminum. This, in turn, results in a very conservative conclusion and is not likely reflective of the site-specific water quality parameters, bioavailability of aluminum and the potential toxicity to aquatic life.

In order to reach a more realistic-case scenario, EPA should consider adjusting the model to be more dynamic and include the water quality parameters (hardness, pH, and DOC) and simultaneously pair values with aluminum concentration *for each* sample. EPA should also include guidance for states on temporal sampling and when aluminum presents the greatest aquatic life water quality challenges before adopting criteria.

Implementation Includes a Flawed, Overly Stringent Sampling Approach

The draft technical support document recommends that states or authorized tribes collect "24 months of monthly sampling data" for the prescribed water chemistry parameters. Akin to copper, not all regulated Clean Water Act dischargers have issues with aluminum. Therefore, the sampling requirements are overly stringent in that they require all permittees to sample for 24 continuous months when in reality, dischargers may not be faced with aluminum-specific water quality challenges at all.

EPA's implementation guidance should recommend a screening program where dischargers are allowed to sample first and determine whether or not there is a need for a more aggressive and continuous sampling protocol. The sampling approach should be based on a reasonable probability that there will be aluminum exceedances. A majority of municipal clean water utilities will not meet this probability threshold and therefore do not need the continuous sampling requirements that pose considerable cost and staffing burdens.

EPA should also consider the site-specific geology and geography when recommending that dischargers conduct water quality sampling. Depending on the unique geographical characteristics, water quality samples could return high background levels of naturally occurring aluminum, especially in areas of the country where the geologic formations are clay-based or if alum is used upstream for nutrient reduction.

EPA Should Consider Alternative Extraction Methods

The draft technical support document does not address the analytical methods. The extraction method EPA relies upon demonstrates the bioavailability of aluminum, but it is not the standard analytical test. There is an alternative

extraction method[1] developed by Oregon State University that uses acute and chronic bioassays to demonstrate aluminum toxicity. EPA should consider these alternative extraction methodologies as a means for addressing aluminum toxicity.

Conclusion

As EPA works to finalize the draft technical support document for implementing the aluminum aquatic life criteria, NACWA recommends the Agency consider the above comments and revise the guidance to reflect these considerations.

Thank you for your consideration of these comments. Please contact me at eremmel@nacwa.org or 202/533-1839 with any questions or to discuss further.

Sincerely,

Emily Remmel
Director, Regulatory Affairs

[1] Rodriguez Patricio, et al., *Determination of Bioavailable Aluminum in Natural Waters in the Presence of Suspended Solids*. 38 ENV. TOX. & CHEM. 1668–81 (2019).