



**ASSOCIATION OF
METROPOLITAN
WATER AGENCIES**

LEADERS IN WATER

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December 29, 2021

Dr. Jennifer McLain
Director
Office of Ground Water and Drinking Water
U. S. Environmental Protection Agency

[Via regulations.gov](http://Via.regulations.gov)

Re: AMWA Comments re: Public Input on Microbial and Disinfection Byproducts Rule Revisions (EPA-HQ-OW-2020-0486)

Dear Dr. McLain,

The Association of Metropolitan Water Agencies (AMWA), an organization representing the largest publicly owned drinking water utilities in the United States, appreciates the opportunity to provide public input on the U.S. Environmental Protection Agency’s (EPA) Microbial and Disinfection Byproducts (M/DBP) Rule Revisions. AMWA was proud to be a part of the Negotiated Rulemaking process to develop the initial suite of M/DBP rules.

AMWA believes that the effectiveness of the Stage 1 and Stage 2 M/DBP rules shows the benefits of an extensive and thoughtful stakeholder process. AMWA is pleased to provide the attached comments for EPA to consider as the agency moves forward with the National Drinking Water Advisory Council working group to discuss possible revisions to the M/DBP rules.

The attached comments address several of the topics addressed during the series of EPA meetings on the M/DBP revisions, but not all of them. Specifically, AMWA’s comments provide an overview and also address: disinfectant and disinfectant residual, total organic carbon, *Legionella*, consecutive systems, storage tanks and items in the docket pertaining to the stakeholder meetings.

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If you have any questions about these comments, please contact Erica Brown, AMWA's Chief Strategy and Sustainability Officer, at brown@amwa.net.

Sincerely,

A handwritten signature in blue ink that reads "Diane VanDe Hei".

Diane VanDe Hei
Chief Executive Officer

Attachment

cc: Ryan Albert, OGWDW
Ashley Greene, OGWDW
Ken Rotert, OGWDW

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Introduction and General Comments

The SDWA of 1996 required EPA to develop rules to balance the risks between microbial pathogens and disinfection byproducts (DBPs), in other words, weighing public health risks of acute illness against the long-term exposure to carcinogens.

As EPA looks to potentially make changes to the suite of microbial and disinfection byproducts (M/DBP) rules, the agency must consider the immense amount of work that community water systems have already completed to achieve the delicate balance of risk tradeoffs, such as managing microbial pathogens while also minimizing the formation of DBPs. Water utilities also face simultaneous compliance challenges with optimizing corrosion control under the Lead and Copper Rule and surface water treatment rules. Furthermore, utilities also must balance water quality considerations to ensure simultaneous compliance with the Ground Water Rule and Total Coliform Rule. As EPA is well aware, complying with any of these regulations has the potential of conflicting with compliance with one or more of the others, not to mention the potential to fall out of compliance with local codes and ordinances. Some of these ordinances, such as fire flow requirements, dictate storage volumes and water main sizes, which in turn affects water age and quality in the distribution system, which utilities must manage to achieve DBP compliance.

Disinfection By-Products Overview

As EPA has acknowledged in its public stakeholder meetings, Community Water Systems (CWSs) have significant differences in the composition of their source waters, as well as different environmental factors which can influence a system's water quality. For example, source water composition is different depending on climate, region of the country, and type of water source, among other issues, including climate change impacts. In addition, geography of the service area, population, and customer water usage can affect the quality of delivered water.

Because of the unique characteristics of source waters and water systems themselves, as well as the efforts utilities have already put into addressing M/DBPs, AMWA agrees that EPA should ask the National Drinking Water Advisory Council (NDWAC) working group to discuss operational management techniques and unique distribution system management plan or water safety plan approaches. These approaches are a possible way to systematically address these unique needs of the diverse array of water systems to consider the possible risk tradeoffs distinctive to their individual situations.

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Due to the wide range of source water quality and current disinfection and treatment practices, changes to the M/DBP rules should not be prescriptive of a specific treatment option. A prescribed treatment option may have harmful unintended consequences on corrosion control and other contaminant removal processes. Treatment must be specific to each community and their individual challenges. The M/DBP rule revisions may be a good opportunity to implement a toolbox of options for utilities not meeting the DBP MCL, as was used for meeting *Cryptosporidium* log removal under the LT2ESWTR.

EPA should also provide resources to ensure a technical working group will provide necessary expertise to advise the NDWAC working group. AMWA still believes, as it stated in its joint letter dated February 9, 2021, with AWWA, NRDC and Clean Water Action, that the M/DBP Rules are an appropriate time to again utilize the Negotiated Rulemaking Procedure largely because of the complexity of the rules. In addition, the result of the collaborative process of a Negotiated Rulemaking, is an agreement in principle signed by all stakeholders including EPA that represents stakeholder ownership, buy-in, and continuity and commitment across administrations. AMWA is optimistic that there can be a similar signed agreement that puts forward good faith, consensus recommendations that are accepted and supported by EPA.

Disinfectant and disinfectant residual

It appears that EPA is considering increasing the minimum disinfectant residual that CWSs must maintain in the distribution system. AMWA cautions the agency in making a blanket requirement for water systems to increase their residuals as this could have harmful unintended consequences. Water systems have spent years and countless resources to find the delicate balance between controlling microbials with disinfectant and meeting the DBP requirements under the M/DBP rules.

As mentioned by several water quality experts that provided feedback via EPA's online stakeholder meetings, higher chlorine residuals present in delivered water do not automatically result in fewer microorganisms in that finished water. Water utilities must consider the characteristics of raw water and also other unique factors to the water system in determining whether and how to increase disinfectant residual in certain areas of a system, such as taste and odor control for customers. These factors include:

- Ammonia and other organic precursor concentrations in the raw water
- Current chlorinating practices
- Manganese/iron in the distribution system
- Lead/copper corrosion in the distribution system

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- Water age
- pH of the water
- Raw water temperature and temperature differential within the system
- HPC results
- Nitrification and corrosion control chemical impacts on disinfectant residuals.

Consideration of a numeric disinfectant residual requirement should be informed by a full understanding of secondary disinfectant level analysis to determine free or chloramine concentration under field conditions.

Total Organic Carbon

With regard to chlorine residuals, water utilities should consider TOC measurements simultaneously so as to understand the correlation between chlorine demand, TOC and DBPs. EPA should be asking the question as to whether the current precursor removal requirements for TOC (and potential alternative compliance criteria) could reasonably be improved for the control of DBP and microbial risks within drinking water systems? If so, how?

Granular Activated Carbon (GAC) is increasingly mentioned as one way in which CWSs can control DBPs. While it is true GAC is effective at removing TOC and other DBP precursors from drinking water, the costs to implement this treatment are substantial and can exacerbate already existing affordability issues within a community. GAC is not the only way utilities can reduce TOC. There are other cost-effective ways to reduce TOC, such as via ozone with biologically active filtration. As noted earlier, any rule changes should account for the unique source water characteristics of water utilities and therefore allow them to choose the treatment that fits their water quality and budget. Of course, EPA must also balance the tradeoffs of possible treatment recommendations with other sustainability and climate challenges, such as additional waste disposal or increased power consumption, which results in higher GHG emissions from power providers.

Legionella

As noted during the stakeholder meetings and at the December 1, 2021 NDWAC meeting, *Legionella* has increasingly accounted for a higher percentage of the waterborne disease cases the past several years than previously. As noted in several presentations during EPA's stakeholder meetings, addressing *Legionella* is a complex issue for water utilities, as it involves

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much more than chlorine residual management. It also includes water storage management and building management, among other factors undoubtedly unique to each system.

AMWA would like to reiterate the difficulties associated with managing *Legionella* from the utility perspective, as noted during EPA's stakeholder meetings. As highlighted in Frank Sidari's [presentation](#) during the July 2021 EPA stakeholder meeting, "incoming free chlorine concentration cannot predict the presence or absence of *Legionella* in the building water system." Should EPA go forward with considering an increased disinfectant residual to protect drinking water systems from *Legionella* and other opportunistic pathogens, AMWA urges EPA to consider whether available data and analysis show that a specific disinfectant residual level or increasing disinfectant in the system manages *Legionella* in drinking water systems or in large buildings. EPA must also consider the impact of a disinfectant increase in an attempt to manage *Legionella* with the formation of DBPs both in the public water system and in the building water system.

While there are operational techniques and improvements water utilities can perform to ensure that water delivered to buildings is of the highest quality possible, these techniques are unlikely to have an impact on reducing Legionnaires' disease outbreaks unless building water systems are properly operated and maintained. Therefore, EPA also needs to wrestle with the questions of whether and how it has the ability to consider buildings' water systems which can harbor and amplify *Legionella*, (including hot water systems, cooling towers, decorative water features or storage tanks) to be a public water system, and therefore under the jurisdiction of the SDWA. It may be time for EPA to think outside the box and reconsider how it addresses the intersection of environmental and building issues – issues that may be outside of the jurisdiction of the agency under the SDWA, but still under the jurisdiction of other environmental statutes, such as OSHA. For example, how can EPA better protect buildings by working with HUD, CDC and NIOSH?

Consecutive Systems

As presented during EPA's stakeholder meetings, actions taken (or not taken) by the wholesale provider affect retail distribution systems. Therefore, AMWA agrees that EPA should consider changes in monitoring parameters at interconnections between wholesalers and retailers that may improve consecutive compliance. On the guidance side, EPA can urge utilities to include contract agreements with site-specific, seasonal parameters that can help improve consecutive system knowledge about the water they are purchasing, and ultimately, compliance. More training and guidance to encourage system operation evaluations and better system operation should also be considered. As with many of the other considerations for these rules, consecutive

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system issues touch small and large systems across all kinds of treatment trains and cannot be addressed with a one size fits all approach. AMWA agrees that this issue should be one of the topics discussed by the NDWAC working group.

Storage Tanks

AMWA believes there are likely some minimum sampling, inspection, management and/or cleaning requirements EPA can consider for finished water storage tanks that would help to reduce the risks of waterborne pathogens in the distribution system. For example, AWWA has standards for inspecting and cleaning storage tanks. AMWA supports EPA including this issue as a topic to be discussed by the NDWAC working group.

Information in the Public Input Docket

AMWA appreciates that EPA has maintained an updated record of the presentations and information provided during its stakeholder meetings to discuss the possible M/DBP revisions. However, AMWA was surprised that EPA did not respond to comments made during the stakeholder meetings by members of the public that were false or misleading. For example, summary documents include statements made by participants including erroneous information about current SDWA requirements or utility practices. Specifically, the August 2021 meeting [summary document](#) includes a statement that “the default to chloramines was perhaps the biggest mistake made in the history of water treatment.” This statement is misleading at best, and AMWA urges EPA to include a statement at the beginning of the summary documents noting that the statements captured in the summaries may not be factual.

Conclusion

In conclusion, AMWA appreciates EPA's acknowledgement of the work utilities have done to date and shares the sentiment that the ultimate goal of potentially revising the M/DBP rules is to balance the risk tradeoffs and recognize the complexity of also maintaining simultaneous compliance with other drinking water rules. It is extremely important for EPA to recognize and discuss the risk-tradeoffs between microbial and long-term carcinogenic exposure, sustainability and climate challenges, and protecting public health without creating unintended consequences or harm as a result.