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Tanya Hodge Mottley
Deputy Director and Acting Director
Office of Science and Technology, Office of Water
Environmental Protection Agency
1200 Pennsylvania Ave NW, Washington, DC 20460

Re: Docket ID No. EPA-HQ-OW-2024-0504; Draft Sewage Sludge Risk Assessment for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS).

Submitted electronically

Dear Director Mottley:

The Association of Metropolitan Water Agencies (AMWA) is pleased to provide comments on EPA's "Draft Sewage Sludge Risk Assessment for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS)." AMWA represents the largest publicly owned drinking water utilities in the United States, and its membership collectively serves more than 160 million people. AMWA recognizes the close connection of wastewater and drinking water processes and asserts that the treatment, disposal, and monitoring of sewage sludge, more commonly referred to as biosolids, can directly impact the quality and usability of drinking water sources. Additionally, many of AMWA's member utilities operate joint drinking and wastewater operations. The Association is therefore well-poised to provide the following feedback to EPA regarding its draft risk assessment.

The management of biosolids requires a balanced and nuanced approach to best support both drinking and wastewater systems. For wastewater systems, biosolids are a necessary byproduct of the wastewater treatment process, and land application of them constitutes a staple disposal method to maximize their usefulness. However, municipal biosolids are likely to contain some concentration of per- and polyfluoroalkyl substances (PFAS) solely because public clean water utilities receive and treat wastewater containing PFAS from upstream industrial and domestic sources. Drinking water systems must be fully aware of potential risks to surface and groundwater when evaluating biosolids disposal options, including land application. Therefore, in addition to producing a technically robust risk assessment, EPA should develop comprehensive and clear guidance to help water systems

understand management practices that prevent potential contamination of surface and groundwater sources from biosolids disposal. Additionally, the Agency should work to develop comprehensive solutions to prevent PFAS releases into the waters that drinking and wastewater utilities must treat by addressing PFAS at their primary sources.

AMWA appreciates EPA's efforts to evaluate the full extent of potential human health risks from PFOA and PFOS in biosolids and recognizes the importance of science-based decision-making in this area. However, the Association has significant concerns regarding the current draft risk assessment's methodological limitations that we believe hamper any potential use of the risk assessment in informing future decisions on biosolids. Specifically, the risk assessment contains key methodological limitations, including reliance on exposure scenarios that do not encompass real-world scenarios, incomplete evaluation of exposure routes, and the absence of contextual risk comparison. Given these concerns, the Association urges EPA to address these shortcomings prior to final publication of the risk assessment. Concurrently, the Agency should consider providing interim guidance for PFAS in biosolids, giving clarity to water utilities while formal standards and regulations are developed, providing key comparative risk context, encouraging proactive management, and supporting risk communication and public trust.

I. Methodological Limitations of the Risk Assessment

AMWA supports regulations, and any assessments that support them, that are based on sound science, and has serious concerns about the limitations of this draft risk assessment. The draft risk assessment as written fails to incorporate probabilistic methods that are representative of a range of exposures, relies on a specific and limited set of exposure scenarios, and does not incorporate cumulative or comparative risk, which weakens any potential conclusions or recommendations the Agency can make from this assessment.

a. Median Assumptions, Absence of Probabilistic Methods Do Not Encompass Real World Scenarios

First, the risk assessment fails to use probabilistic methods to capture the full range of potential exposure levels. This means that the model outputs are based on fixed assumptions that may represent worst-case conditions and not those that are representative of the exposure risks faced by the national population. For example, the model's use of fixed biosolids concentration values, rather than a distribution, can be higher than actual levels for many communities, and the absence of probability weighting may give the impression that modeled exposure conditions are common when they in fact may represent rare events. Ultimately, the assessment's lack of probability and frequency estimation, and its reliance on a limited set of data on PFAS concentrations in biosolids and high application rates, can lead state and local regulators to decisions driven by high-exposure, but low-likelihood scenarios, potentially resulting in resource allocation that is disproportionate to actual risk levels.

The draft assessment both blends median exposure scenarios with assumptions that may be overly conservative for certain settings, such as assuming continuous long-term exposure to locally sourced food and untreated well water without accounting for variability in local diets, water treatment practices, or agronomical practices. In some cases, these assumptions could overstate risks for

communities where biosolids applications are limited, soils and hydrogeologic conditions restrict PFAS mobility, or protective measures are already in place. Without incorporating site-specific mitigation factors or real-world variability in biosolids concentrations, or transparently caveating that the conditions used in the model are not representative of most real-world conditions, EPA's risk assessment may produce results that suggest higher risk exposure from PFOA and PFOS in biosolids than are likely to occur in most real-world contexts.

b. Incomplete Evaluation of Exposure Routes Fails to Accurately Consider Risks

Furthermore, the assessment evaluates a limited number of exposure routes thoroughly, and some only qualitatively, introducing potential biases into the model. For example, the assessment models occupational exposures and incineration emissions qualitatively while detailing exposure pathways for drinking groundwater sourced near a surface disposal site. These limited methods curb the overall usefulness of the risk assessment and limit how it should be used to inform regulations on biosolids.

The risk assessment also fails to fully account for the risks associated with landfill and incineration disposal methods, citing gaps in the evolving research on the topic, while presenting these methods as viable alternatives to land management, demonstrating the incompleteness of EPA's assessment. Specifically, potential contamination via leachate from landfills cannot be soundly incorporated into the risk assessment due to the current gaps in research and analysis. EPA has not yet approved a standardized sampling method for landfill leachate, which further complicates the development of studies for the purpose of risk analysis.[1] AMWA recommends a more systematic approach to the collection and analysis of data in future documents on the subject before finalizing the risk assessment.

c. Absence of Contextual Risk Comparisons

Additionally, while EPA's Frequent Questions and Answers[2] acknowledge that the risk assessment does not evaluate aggregate or cumulative risk, neither the draft risk assessment nor its supporting materials contextualize or compare exposure of PFOA and PFOS risks from biosolid applications to other PFAS sources, such as consumer products. This omission can distort the perceived contribution of biosolids to total PFAS exposure and may potentially lead states and other parties to make policy decisions based on limited knowledge of exposure from other sources.

Given these limitations, AMWA urges EPA to refine the draft risk assessment to quantify assumptions more accurately with realistic exposure conditions, incorporate probabilistic approaches to convey the likelihood of modeled outcomes, and contextualize biosolids-related risks among other PFAS sources. Such improvements would help ensure that the final assessment supports proportionate, effective, and science-based policy and operational decisions.

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[1] CDM Smith. PFAS within Landfills, Leachate and Generic Wastes. https://www.cdmsmith.com/en/client-solutions/insights/pfas-landfill-leachate.

[2] EPA. January 14, 2025. Frequent Questions and Answers: Draft Sewage Sludge Risk Assessment for PFOA and PFOS. https://www.epa.gov/biosolids/frequent-questions-and-answers-draft-sewage-sludge-risk-assessment-pfoa-and-pfos#assessment.

II. EPA's Draft Risk Assessment Should Align with Other Comprehensive Agency Actions to Better Understand and Limit PFAS Exposures

AMWA continues to recommend that EPA act to better identify sources of PFAS in the environment and work to limit these discharges. The agency has recognized the persistent nature of these chemicals; therefore, it should be working toward prevention, as disposal alone is not a viable long-term option. AMWA appreciates efforts already being made, like the addition of certain PFAS to the Toxics Release Inventory and urges the agency to do more to track and reduce PFAS discharges. Knowing the source of PFAS will allow EPA and PWSs to work to address it at the source and hold those polluters accountable, following the "polluter pays" model.

AMWA also recommends that the EPA Office of Ground Water and Drinking Water collaborate with other line offices and federal agencies to address PFAS exposure. PFAS are in food and food packaging, household and personal care products, firefighting foam, and many other items that the public encounters.[3] EPA and other agencies must work to reduce these exposures and better communicate the risks associated with them. Regulating drinking water and wastewater should only be one part of a larger, holistic approach to addressing the public's exposure to PFAS.

III. Conclusions

AMWA asserts that similar transparency is necessary in advising water systems with how best to dispose of their PFAS contaminated waste and recommends that EPA develop final interim guidance on the land application of biosolids to combat uncertainty. In September of 2024, the Government Accountability Office (GAO) released a report addressing "Persistent Chemicals: Additional EPA Actions Could Help Public Water Systems Address PFAS in Drinking Water."[4] Recommendation 4 outlined that relevant EPA offices should "summarize and consolidate existing regulations, policy, and guidance relevant to the disposal of PFAS-contaminated waste into a straightforward resource for public water systems," to which EPA responded that this "may be unnecessary." Water systems leverage a variety of means of disposal of their PFAS-containing waste, including incineration and disposal in hazardous and nonhazardous waste landfills, and this draft risk assessment has introduced potentially undue uncertainty into the decision-making framework for communities.

Furthermore, it is essential that any materials and guidance that EPA develops on the proper disposal and handling of biosolids containing PFAS promote meaningful, realistic solutions for both drinking water and wastewater utilities. In order to best promote public health and drinking water sources, all risk assessments should include the most comprehensive, up-to-date research available that represents various exposure scenarios nationwide. Risk assessment methods should not be finalized until they are able to fully incorporate the emerging research and analysis on PFAS exposure via biosolids.

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[3] EPA. (2023, March 16). Our Current Understanding of the Human Health and Environmental Risks of PFAS. https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas.

[4] GAO. (2024, Sep 24). Persistent Chemicals: Additional EPA Actions Could Help Public Water Systems Address PFAS in Drinking Water. https://www.gao.gov/products/gao-24-106523.

AMWA appreciates EPA's consideration of these comments. If you have any questions about this letter, please contact Erin Phillips, AMWA's Government Affairs Associate at phillips@amwa.net.

Sincerely,

Thomas Dobbins
Chief Executive Officer
Association of Metropolitan Water Agencies

cc: David Tobias, Health and Ecological Criteria Division, Office of Science and Technology, Office of Water