



June 24, 2021

Christopher P. Weis, PhD, DABT
David M. Balshaw
National Institute of Environmental Health Sciences (NIEHS)

Re: Drinking Water Contaminants of Emerging Concern for National Emerging Contaminant Research Initiative

Dear Dr. Weis and Mr. Balshaw,

The Association of State Drinking Water Administrators (ASDWA), Association of Clean Water Administrators (ACWA), and Environmental Council of States (ECOS) (hereafter, “the Associations”) appreciate the opportunity to offer comments on the National Institutes of Health/National Institute of Environmental Health Sciences (NIH/NIEHS) “Drinking Water Contaminants of Emerging Concern for National Emerging Contaminant Research Initiative” (NECRI) that was released on May 3, 2021. Our membership represents the state drinking water, clean water, and environmental program directors and administrators who, on a daily basis, implement the Safe Drinking Water Act (SDWA) and Clean Water Act (CWA), in addition to state-specific laws, regulations, and public health and environmental initiatives. As the primary managers of water quality in the United States—in partnership with the water sector, municipalities, and stakeholders responsible for water stewardship—we are acutely interested in this RFI and the future of a national initiative of this nature.

The Associations share many concerns with emerging contaminants and therefore urge the NECRI to address the U.S. Environmental Protection Agency’s (EPA) authority under the Toxic Substance Control Act (TSCA) to prevent chemical substances from entering the environment as part of a holistic strategy to counteract emerging contaminants. Currently, the burden and cost of cleanup of emerging contaminants is unfairly falling on states and water utilities as opposed to the manufacturer. This burden and cost can be prevented through protection of source water, which is a more effective and less expensive approach than treatment after contamination. The protection and contamination prevention of drinking water sources is essential for sustaining safe drinking water supplies and protecting public health, the economy, and the environment.

The Associations support the development of the NECRI for addressing contaminants of emerging concern (CECs), which is key to protecting public health and ensuring public confidence in water quality. We begin our comments with specific recommendations of the state directors and program administrators, as well as comments related to the subsections of the Request for Information (RFI) as published.

Existing Framework for CEC Research, Response, and Governance in the Water Context

State members of two of the Associations, ACWA and ASDWA, developed a recent [*Recommendations Report for Contaminants of Emerging Concern*](#). This report details a framework for multi-level action, including research and development, on CECs in water. We strongly urge those entrusted with developing the NECRI to adopt and borrow from the framework for action and priorities identified in the *Report* as they develop the form, function, objectives, and operating plan for the NECRI. For example, as described in the report, CECs almost never get through the full life cycle framework from emerging to “emerged” and regulated/managed with a suite of media-specific benchmarks that are well understood and legally defensible. The NECRI should focus its efforts on that strategic goal: getting priority CECs “to the finish line” to allow states to then take action. We elaborate on further details in the Recommendations Report below.

Regulatory Context

Since the 1996 SDWA Amendments, the regulatory development process has been hampered by the lack of a comprehensive research agenda or strategy and limited health effects studies to support EPA’s decision-making regarding emerging contaminants. For this NECRI to be successful, its managers and collaborators should consider the following barriers state programs encounter with regards to emerging contaminants:

- Analytical methods;
- Toxicity studies;
- Risk communication; and
- Funding.

Additionally, the NECRI should include regular stakeholder updates on results, timelines that clearly show progress, and ongoing engagement with state environmental agencies. It is imperative to the objective of the NECRI that state programs be routinely informed and engaged, as the NECRI’s success hinges on producing knowledge that enables state and EPA programs to address CECs through regulatory and non-regulatory means. This frequent engagement will also minimize duplicative efforts and foster a transparent team-environment that promotes the success of the endeavor.

The topics presented in Section 1 of the NIH/NIEHS RFI are interrelated to the research areas listed in Section 2 of the RFI. The comments below have been organized by the section titles we

will be addressing listed in Section 1, and within each of the section titles we have identified their correlating research areas from Section 2.

Barriers

Analytical Methods

Additional robust and reliable analytical methods are needed to address CECs such as per- and polyfluoroalkyl substances (PFAS), as currently the limited number of analytical methods for drinking water *or* drinking water sources (i.e., surface and ambient waters) presents a barrier to understanding the potential extent of contamination. For example, the number of PFAS is in the thousands, and Wisconsin has developed recommended groundwater standards for multiple PFAS (including PFODA, PFTA, NEtFOSAA, PFOSA, NEtFOSA, and NEtFOSE) but is unable to test for them in drinking water with one or both of the current EPA analytical methods. Addressing these CEC mixtures (of which PFAS mixtures are strong examples) will enable programs to better understand in detail the composition of water, wastewater, and ambient conditions. Another analytical method barrier is the slow-moving Approved Analytical Methods (“Methods”) development process at EPA, as well as the approval process for analytical methods developed outside of EPA. The current procedures and Methods used limit the federal government’s timely development of protective limits for CECs. Lastly, many states cannot move to monitor or regulate CECs in finished, source, or ambient waters in the absence of Methods promulgated under the SDWA or CWA. The NECRI will have the opportunity to accelerate this critical gap in the CEC response lifecycle.

Research Area - Human Health and Environmental Effects

To address the growing number of emerging contaminants, state environmental agencies not only recommend that developing additional Methods be a research priority but that the process should be completed expeditiously. The Associations recommend establishing an independent body to oversee federal efforts to assess and derive risk management responses to CECs. The Associations also recommend pursuing federal recognition and acceptance of state-specific CEC standards by federal facilities. When states take independent action to address CECs due to a lack of federal actions, federal facilities within their jurisdictions have, at times, questioned or rejected the obligation to meet state-specific standards or conform to state-specific monitoring approaches, further obfuscating data analysis and understanding of CEC concentrations, fate and transport, and regulatory/non-regulatory risk management.

When developing additional Methods, the Associations recommend that this NECRI explore opportunities to address emerging contaminants, such as PFAS, holistically with regard to the transfer of a CEC through the environment, and not to focus exclusively on drinking water methods. Considerations for a holistic approach for developing additional Methods for emerging contaminants must include cross-water-cycle treatment for end uses including

drinking; disposal and fate of CECs in wastewater, sludge, and biosolid applications; at landfills, in soil and leachate; and in incinerators (air emissions, water treatment residues and concentrates) to ensure complete consideration of a substance's lifecycle and across environmental media. The holistic approach is particularly important for chemical substances where there is a lack of data and information to determine potential impacts to drinking water and human health, and that may present unforeseen risks in the future, such as was the case with PFAS when manufacturing began in the 1960s and continues today.

Additionally, the NECRI should consider providing guidance on the use of PFAS (or other CEC) screening methods, such as Total Organic Fluorine and Total Oxidizable Precursor analyses, that can complement methods for individual constituents. States are trying to determine how to use limited monitoring resources most efficiently and knowing the advantages and limitations of various types of analytical methods in identifying potential contamination sites and sources would be helpful.

Toxicity Studies

Uncertain toxicity of many emerging contaminants, in part due to a lack of human health and environmental health effects research, also presents a barrier to both water utilities and state water programs. Toxicology and epidemiology capacity and results are critical to successful health effects characterization, and many agencies responsible for regulating water quality do not have toxicologists or health risk assessors on staff. This constrains states seeking to independently act to address CECs in lieu of federal actions. The lack of Methods, health effects studies, and reporting requirements for many new and emerging chemicals creates challenges for states, municipalities, and water, wastewater, and water recycling systems to: explain what is known and unknown about a CEC's health effects; communicate the associated risks to customers and the public; investigate sources of contamination; and make important decisions about whether to install treatment, which is expensive and typically above and beyond conventional water treatment processes.

Research Area - Human Health and Environmental Effects

To assist states and utilities with limited time and staff, the Associations recommend that the NECRI focus efforts on conducting toxicity and health effects studies on emerging contaminants. Developing toxicity values and health advisories is primarily a federal responsibility, but states sometimes take on this responsibility in situations lacking federal leadership. The ACWA/ASDWA Framework noted above, the Cooperative Federalism Framework under the CWA (and to an extent, the SDWA), and other state cooperative models should be incorporated into the NECRI to enhance state-federal coordination as federal agencies develop toxicity values and other response actions. This model should be a formal group, such as the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers (GLUMRB) Water Supply Committee, which develops the

10 States Standards recommendations. In addition to the development of a formal group for coordination other relevant organizations such as the Society of Environmental Toxicology and Chemistry (SETAC), the American Chemical Society (ACS), the Federal-State Toxicology Risk Assessment Committee (FSTRAC), the Great Lakes states (GLI Clearinghouse), the Society of Risk Analysis (SRA), and the Society of Toxicology (SoT) should be engaged in these efforts. Any efforts here should include the Associations, and draw from previously-developed state toxicological studies and considerations of state standards (e.g., see ECOS' [white paper](#) on state processes and considerations for setting PFAS standards for an in-depth analysis of existing research and guidance).

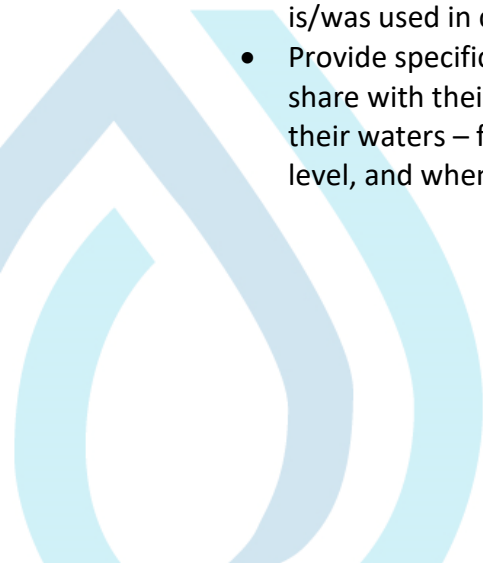
Risk Communication

Risk communication works best when it is a two-way process where agencies listen to, learn from, and meet the needs of specific audiences. The exchange of information on a contaminant with the public can easily become unclear and less effective for state environmental agencies and their drinking water programs, as well as the water systems, when there is no unified, national direction. While the research and development of methods to test for emerging contaminants is important, the creation of appropriate national-level risk communication resources on emerging contaminants is equally important.

Research Area - Risk Communication

When developing methods and toxicity studies on emerging contaminants, the Associations recommend increasing and improving risk communication resources in partnership with federal agencies, states, and water systems as soon as possible. The Associations encourage the NECRI to prioritize the development of risk communication resources. Recommendations for successful risk communications for contaminants of emerging concern include:

- Leverage and reference existing content from other resources developed by federal and state agencies.
- Explain what is known and unknown for specific emerging contaminants and their associated health risks, including information about what a toxicity assessment is; what a health advisory level is, what a maximum contaminant level (MCL) is, and other risk-based benchmarks are, their intended applications, and how they differ; and the use of (or lack of) health effects studies for decision-making. Also explain how/if the chemical is/was used in commerce.
- Provide specific information and messaging for water systems and state programs to share with their customers and with the public if they find the emerging contaminant in their waters – for both when there is a toxicity assessment, MCL or health advisory level, and when there is not.



- Provide some regulatory context for the public to understand why there may be different requirements and actions by different states and water systems for various emerging contaminants.
- Explain the relative risk from drinking water, source waters, and ambient waters with any degree of human exposure (i.e., fish tissue consumption, contact and no-contact recreation, etc.) compared to all contaminant exposure pathways; and why the most-acute pathways (i.e., food packaging, cookware, contaminated milk, drinking water, etc.) are not the only exposure pathway being evaluated and acted-upon by federal, state, and local agencies.
- Provide clear direction for consumers to reduce their risk from the contaminant in drinking water, if necessary, as well as reducing exposure via other pathways.
- Provide information about the role of federal agencies and actions that are being taken to assess and address the emerging contaminant in drinking water and other media, and to keep it out or remove it from the environment.

EPA's [Recommendations for Public Water Systems to Manage Cyanotoxins in Drinking Water](#) developed in 2015 is a strong example of a complete package of risk communications materials and recommended actions. These recommendations are complete, with a robust step-by-step approach to cyanotoxin management that sets clear expectations for all stakeholders. The Associations recommend that EPA develop similar packages for other CECs and prioritize the development of these packages by which CECs are in the "regulatory pipeline." It is critical that the NECRI focus on getting priority drinking water CECs in a position to be regulated/addressed at the state or federal level. There are almost no examples of a compound going through the entire lifecycle framework mentioned in the ASDWA and ACWA CEC Recommendations Report.

Funding

The core of state programs' work is upholding the principles of the SDWA and CWA, which includes important regulatory oversight activities and preventive work to protect public health. This preventive work ensures that water systems comply with the regulations and are consistently delivering safe drinking water to customers, enabling surface water use as drinking water, and keeping CECs below risk-based, appropriate concentrations in relevant waters and media (i.e., fish shellfish and kelp, irrigation waters, etc.). It also attempts to avert public health crises like the dangerously high lead levels in Flint, Michigan. However, state workloads reach far beyond the requirements of the SDWA. As previously mentioned, the investigation of an emerging contaminant's toxicity and communication of risk is an expensive process for state drinking water programs that are already constrained by a limited staff and budget. ASDWA's [2019 Analysis of State Drinking Water Programs Resources and Needs](#) estimated that drinking water programs needed approximately 82 percent more FTEs and 65 percent more funding to effectively implement their programs and ensure safe drinking water for the public in 2020. Quasi-regulatory actions by states to address emerging or unregulated contaminants, such as

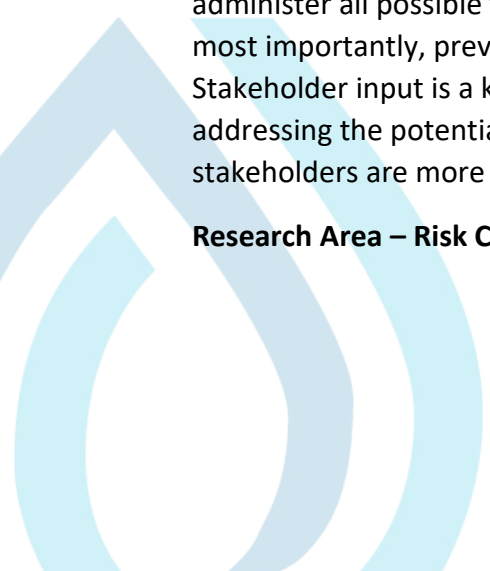
PFAS, algal toxins, and *Legionella pneumophila*, have widened the gap between resources states have available and what is needed. As state water programs and utilities continue to meet regulatory requirements and prepare for the additional workload of new or updated regulations on the horizon, such as the Lead and Copper Rule Revisions (LCRR), with limited time and staff, opportunities to alleviate some this burden are necessary.

The Associations recommend that the NECRI expand resources to increase the rate of evaluating and responding to CECs. Programs at the state and federal level charged with preventing, identifying, assessing, and monitoring CECs have insufficient funding to keep pace with the demands placed by new and emerging CECs. To address these deficiencies, the Associations recommend: increase funding to the federal programs charged with reviewing substances to reduce backlogs and evaluate substances at a rate that matches the pace at which new substances are submitted for evaluation; conduct a funding gap analysis to ensure states are provided with adequate resources to address monitoring, developing human health and aquatic life criteria, risk assessments, and standards development for CECs; and identify non-federal sources of funding for states to expand state resourcing options; for example, the funding mechanism used for the [Washington State Model Toxics Control Act](#).

Opportunities to Coordinate

In the development of risk communication resources, analytical methods, funding opportunities, and toxicity studies, the Associations recommend NIH/NIEHS coordinate with EPA and other federal agencies, state environmental agencies and their drinking water programs, and water systems. This NECRI should also promote partnerships with local entities, such as regional or statewide associations representing local public health departments and local government representatives. “Familiar faces” are a valuable asset in risk communication. Many federal organizations and state programs have developed useful material that can be used as examples or assist in research direction. For example, the Interstate Technology and Regulatory Council (ITRC) developed a [Risk Communication Toolkit for Environmental Issues and Concerns](#) that addresses emerging contaminants like PFAS, 1,4-Dioxane, and Harmful Cyanobacterial Blooms. Opportunities to collaborate with additional federal, state, and industry organizations is outlined in the [ASDWA-ACWA Report on Contaminants of Emerging Concern](#). Close coordination across all EPA programs and with other federal agencies is paramount to administer all possible federal regulatory authorities to holistically assess, address, remove, and most importantly, prevent harmful chemicals from entering the environment under TSCA. Stakeholder input is a key component in developing communication strategies - by proactively addressing the potential ripple effect from CEC sampling and the publication of data, stakeholders are more prepared and feel engaged in the process.

Research Area – Risk Characterization to Inform Risk Mitigation



The Associations emphasize the importance of collaborating with state drinking water programs and other state environmental programs when developing analytical methods, toxicity studies, and communication resources. The Associations also encourage this NECRI to direct EPA to use its authorities under the TSCA to prohibit or restrict the use of chemicals that may adversely impact drinking water sources and public health throughout any part or all of the chemical's lifecycle - from manufacturing through processing, distribution, and disposal. This Initiative should recommend EPA's Office of Pollution Prevention and Toxics coordinate closely with the Office of Ground Water and Drinking Water and Office of Science and Technology to identify data and informational needs for existing and emerging contaminants to better inform holistic decision-making processes throughout the Agency.

Outreach Efforts

Research Area – Risk Communication

The Associations strongly encourage NIH/NIEHS to support regular stakeholder engagement in the development of this NECRI targeting emerging contaminants. Frequently engaging states, water systems, and the public, will ensure research and developed risk communication resources are transparent, not duplicated, and thoroughly addressing emerging contaminants.

Michigan's PFAS Action Response Team (MPART) is one example of a successful stakeholder engagement on emerging contaminants at the state level. MPART regularly holds [public stakeholder engagement meetings](#) in collaboration with federal agencies and community partners to update communities with PFAS sites. [Minnesota's Contaminant of Emerging Concern Initiative](#) is another great state example of a comprehensive strategy to address emerging contaminants with regular stakeholder input. Other state-level examples exist, and the Associations recommend that EPA look across the states for models of successful stakeholder engagement and leverage those examples for its stakeholder outreach efforts. The Associations hope research, public engagement, and materials developed would echo these state-level successes targeting emerging contaminants.

Indicators Measuring Success

Research Area – Risk Communication

This NECRI needs clear timelines and regular progress reports in order to be successful. Both outputs and outcomes need to be clearly stated in the Initiative, as well as the linkages to regulatory programs. The Associations recommend that this initiative regularly provide updates via webinars addressing a public audience, for example two updates a year, that will clearly demonstrate the progress made in researching emerging contaminants.

Research Area – Human Health and Environmental Effects



This Initiative is also an opportunity to address a lack of health effect studies for contaminants on EPA's Contaminant Candidate List (CCL). As previously mentioned, the SDWA regulatory development process has been hampered by the lack of a holistic research agenda and limited health effects research to support EPA's decision-making. The Associations recommend that this Initiative work to establish a goal for health effects data on CCL contaminants, for example health effects studies on five contaminants every five years.

Significant Concerns and Recommendations

As stated previously, the Associations urge EPA to use its authority under TSCA as part of a holistic approach to prevent chemical substances from entering the environment. State drinking water programs and water utilities are having to assume the burden and cost of removing these harmful chemicals from both surface water and ground water sources of drinking water. State drinking water programs and water utilities are having to clean up contamination that could have been prevented through improved source water protection, while the manufacturers continue to profit from the use and sale of these chemical substances. The SDWA uses a "multiple-barrier approach" that includes source water protection and treatment to ensure that drinking water is safe from many potential contaminants. This approach is not intended to leave the burden of responsibility on the drinking water utility to remove toxic chemicals from the environment; it is to ensure that these barriers will minimize human exposure. Preventing contaminants from entering drinking water sources – waters typically in the purview of state clean water programs and/or federal CWA requirements – is much more effective and less expensive than having to remove them once drinking water has become contaminated. Protecting drinking water sources (and preventing contamination) is essential for sustaining safe drinking water supplies, protecting public health and the economy, and has many additional environmental benefits. The Associations and their members would be happy to further engage with the NIH/NIEHS about specific opportunities to implement a more preventative approach to engaging CECs.

Additionally, the Associations have significant concerns with the mentality of focusing research efforts solely on "new" contaminants. It should be noted as a reminder that an emerging contaminant may also be a contaminant that has been known for a long time but is generating increased interest in the scientific community due to new scientific information about its impacts on public health or the environment. These contaminants are often unregulated or are regulated at a level that may no longer be considered adequately protective of human and ecological health. The Initiative should keep in mind these existing contaminants when conducting research and developing risk communication materials.



If you have any questions about these comments, please feel free to contact us.

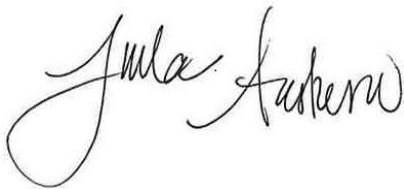
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