IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

JAMES FARMER, ROBIN ALESSI, PATSY SCHULTZ, KAREN COLEMAN, TONY COLEMAN, JOHNSON COUNTY, TEXAS, MAINE ORGANIC FARMERS AND GARDENERS ASSOCIATION, and POTOMAC RIVERKEEPER, INC., d/b/a POTOMAC RIVERKEEPER NETWORK

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, and MICHAEL REGAN, in his official capacity as Administrator of the United States,

Defendants,

and

NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES,

Proposed Intervenor-Defendant.

Civil Action No. 24-cv-01654-DLF

Hon. Dabney L. Friedrich

PROPOSED INTERVENOR-DEFENDANT NACWA'S MEMORANDUM IN SUPPORT OF MOTION TO INTERVENE

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The National Association of Clean Water Agencies ("NACWA") submits this Memorandum in support of its Motion to Intervene as a Defendant in this action pursuant to Federal Rules of Civil Procedure 24(a) and (b). Counsel for NACWA contacted all counsel of record. Defendants and Plaintiffs take no position at this time. *See* Local Civ. R. 7(m). NACWA is a national non-profit trade association representing the interests of over 350 public clean water agencies managing wastewater and stormwater across the country, an essential public infrastructure function that touches every American. NACWA is intervening on behalf of its members whose critical role of protecting public health and the environment would be undermined by the relief sought by Plaintiffs. NACWA supports the Motion to Dismiss filed by Defendant U.S. Environmental Protection Agency ("EPA") because Plaintiffs have not demonstrated that EPA has a non-discretionary duty to act or that there is a "final" agency action subject to judicial review.

INTRODUCTION

One of the earliest truths we learn in life is central to this case: everybody poops. The U.S. Environmental Protection Agency ("EPA") and state regulators apply stringent standards to the management of that reality to ensure it is protective of human health and the environment. These standards are primarily implemented by local public clean water agencies, over 350 of which are NACWA members. Critically, those standards must account for multiple – and at times, competing – interests, including, among others, scientific and technical feasibility, environmental tradeoffs posed by various wastewater and residuals treatment and management options, affordability, and other environmental justice considerations. NACWA members are on the front lines ensuring that our sanitary systems support healthy, thriving communities, and as such, they do and should play an active role in informing regulatory decisionmakers on these important issues.

The thousands of chemicals commonly referred to as per- and polyfluoroalkyl substances ("PFAS") pose unprecedented challenges for NACWA's members and other public health professionals. PFAS are ubiquitous in the environment as they are used in countless industrial and commercial processes and thousands of everyday consumer products including cookware, cosmetics, laundry detergent, clothing, food packaging, and contact lenses. PFAS are also used in vital medical products such as pacemakers, as well as in products used to achieve clean energy goals such as lithium-ion batteries for electric vehicles and solar panels. Importantly, the durable chemical bonds that enable these chemicals to be waterproof, greaseproof and heat resistant also result in the inability of the treatment processes used by publicly owned treatment works ("POTWs") to treat hundreds of millions of gallons of wastewater a day to eliminate them.

POTWs have to collect and receive all wastewater from homes, businesses, and institutions, which often include trace amounts of PFAS from washing, rinsing, and flushing. Any PFAS that goes down the drain flows to POTWs. Because of this, municipal biosolids, which consist of the solids that are separated and physically and chemically treated during the wastewater treatment process,[1] often contain trace levels of PFAS compounds. Handling the millions of tons of biosolids we generate[2] every year in a manner that is protective of human health and the environment is one of the most vital public services NACWA members provide to the communities they serve.

[1] "Biosolids" refers to treated wastewater residuals meeting the requirements of 40 C.F.R. Part 503.

[2] In their Complaint, Plaintiffs allege that the term "biosolids" is "euphemistically" used to refer to "sewage sludge." While NACWA disagrees with this characterization of the term "biosolids," NACWA notes that wastewater professionals use terms such as "generate" in this context euphemistically to refer to the aforementioned adage: everybody poops. We are all "generators" of PFAS-containing biosolids.

Municipal biosolids are regulated under CWA Section 405(d) and detailed EPA rules found at 40 C.F.R. Part 503. The Part 503 regulations establish acceptable biosolids management practices and limits on pollutants that may be present in biosolids "in concentrations which may adversely affect public health or the environment." 33 U.S.C. § 1345(d). The CWA requires EPA to review these regulations every two years "for the purpose of identifying additional toxic pollutants and promulgating regulations for such pollutants." 33 U.S.C. § 1345(d)(2)(C). In compliance with this mandate, EPA most recently published its Biosolids Biennial Report No. 9 in December 2022, which identified 13 new pollutants, including 3 PFAS chemicals, warranting further study. EPA is nearing completion of scientific risk assessments which will be used to determine whether additional regulation is necessary under Part 503 for two PFAS – perfluorooctanoic acid ("PFOA") and perfluorooctane sulfonate ("PFOS").[3]

It is critical to NACWA's members that their voices, as well as the voices of the scientific community, be heard during every phase of EPA's process in determining how to address PFAS in wastewater and biosolids. While the sanitary systems run by NACWA's members apply some of the most advanced wastewater treatment technology available, only three primary management options exist for handling the millions of tons of biosolids generated throughout the country every year: incineration, surface disposal (primarily through solid waste or sludge-only landfilling), and beneficial reuse via land application. EPA regulates all three options under its Part 503 regulations, and any changes to those regulations could require NACWA's members to overhaul their current approach to one of the most critical and central sanitation services they are responsible for

[3] EPA also recently developed a new Standardized Framework for Sewage Sludge Chemical Risk Assessment and Biosolids Screening Tool which the Agency intends to utilize to screen pollutants – not just PFAS – found in biosolids and determine whether a formal risk assessment for a given pollutant is warranted.

providing to their communities. Critically, any regulations that restrict or eliminate one or more of the available biosolids management options will have significant adverse impacts on the options remaining, as well as on NACWA's members. Therefore, decisions concerning whether and how to regulate particular PFAS compounds in biosolids must be made by expert regulators, considering all of the potential impacts – both direct and indirect – on the waste management cycle and following evidence-based science and informed policy considerations.

Without so much as a mention of EPA's ongoing assessments of PFOA and PFOS in biosolids, however, Plaintiffs now seek to forego the Agency's longstanding Part 503 risk assessment and regulatory processes and use this Court to compel EPA to take regulatory action on 29 individual PFAS in biosolids before EPA determines the need for such action. Specifically, Plaintiffs seek the inclusion of 18 PFAS in EPA's Biosolids Biennial Report No. 9 (Table 1 PFAS) and promulgation of regulations for 11 PFAS identified in previous Biennial Reports (Table 2 PFAS).[4] Rather than rashly charging ahead as Plaintiffs seek, EPA must use the Part 503 process to determine whether specific chemicals in biosolids pose a risk, as the presence of a chemical does not necessarily mean that its occurrence presents a risk or warrants regulatory action. For example, EPA must consider complexities in determining the levels of PFAS uptake in soil and transport into agricultural products. Identifying relative risk in light of the many sources of potential PFAS exposure unrelated to biosolids will likewise be a challenge, among many others.

Unsubstantiated regulation of PFAS in biosolids of the type sought by Plaintiffs would unduly restrict the already limited biosolids management options available to municipal clean

[4] The Complaint lists the 18 PFAS EPA allegedly failed to identify under Table 1 and the 11 PFAS EPA has allegedly failed to regulate under Table 2. Second Am. Compl. ¶¶ 10–11, ECF No. 12.

water agencies at the expense of vital human health and environmental protections. For example, land application of biosolids to farmland as a non-synthetic, affordable, and beneficial fertilizer is the most common form of biosolids management that has been used by many of America's largest cities for decades. EPA notes on its website that such beneficial land application provides "a number of benefits including nutrient addition, improved soil structure, and water reuse," and "can have economic and waste management benefits (e.g., conservation of landfill space; reduced demand on non-renewable resources like phosphorus; and a reduced demand for synthetic fertilizers)."[5]

The relief sought by Plaintiffs, however, would mandate that EPA make a premature determination that multiple PFAS "are present in sewage sludge in concentrations which may adversely affect public health or the environment." Such a determination would place NACWA members' ongoing use of sustainable land application as a proven, longstanding, environmentally beneficial means of biosolids management in jeopardy and unnecessarily increase public fears to the significant detriment of municipalities, the public they serve, and the agricultural community.

NACWA's members have and will continue to play a key public stewardship role in addressing the challenges posed by PFAS. Adoption by EPA and states of practical, science-based approaches to PFAS regulation in biosolids is critical to NACWA members' continuing safe and efficient management of the enormous quantities of biosolids generated every day. To that end, NACWA and its members have been in a steady dialogue with EPA for years regarding PFAS in wastewater and biosolids and have supported and participated in EPA's current PFAS risk

[5] EPA, *Basic Information about Biosolids*, https://www.epa.gov/biosolids/basic-information-about-biosolids (last visited Sept. 18, 2024).

assessments, which may ultimately result in changes to how biosolids are regulated under Part 503.

For example, EPA sought public nominations[6] of scientific experts to sit on an ad hoc panel to review its white paper, *A Standardized Approach to Biosolids Chemical Risk Assessment,* as well as its Biosolids Screening Tool and User Guide. This group of experts, known as the Biosolids Panel, served under the auspices of EPA's Science Advisory Committee ("SAB"), a Federal Advisory Committee, and provided advice on EPA's updated approach to understanding pollutants that may be found in biosolids. Comprised of fourteen individual experts, all with a great deal of scientific knowledge of chemistry, environmental and agricultural science, and risk assessment, the Biosolids Panel met publicly three times and produced a report containing revisions, suggestions, and considerations to the SAB. NACWA attended these public meetings and submitted formal comments to the SAB. Ultimately, the SAB "commended the EPA" for its "high level of work and responsiveness to a broad array of community concerns" and found that the updated risk assessment framework "reflect[s] current biosolids management[] including common, beneficial uses in agriculture."[7] EPA has since used its new framework to understand the specific risks associated with PFOA and PFOS in biosolids in what is known as a refined risk assessment. This process has been fully vetted and supported by the SAB.

EPA is continuing to assess PFAS in biosolids through its POTW Influent PFAS Study, through which NACWA members will analyze wastewater samples in an attempt to identify PFAS

[6] *Request for Nominations to the Scientific Advisory Board Biosolids Chemical Risk Assessment Panel*, 86 Fed. Reg. 49,021 (Sept. 1, 2021), https://www.govinfo.gov/content/pkg/FR-2021-09-01/pdf/2021-18807.pdf.

[7] EPA, *Approach to Biosolids Chemical Risk Assessment and Biosolids Tool*, https://sab.epa.gov/ords/sab/r/sab_apex/sab100/advisoryactivitydetail?p18_id=2610&clear=18&session=14907119873596 (last visited Sept. 24, 2024).

sources and analyze their biosolids for PFAS and other chemicals.[8] EPA is also supporting additional research efforts to evaluate PFAS concentrations in biosolids. These scientific findings must inform any Agency decisions concerning regulation of PFAS in biosolids, including the threshold question of whether there is a need for such national regulation.

Plaintiffs, nevertheless, seek to upend EPA's established process for identifying and conducting risk assessments for pollutants in biosolids. Rather, Plaintiffs ask this Court to compel EPA to forgo careful and comprehensive consideration of the evolving science for PFAS and critical public stakeholder input, and to instead categorically adopt Plaintiffs' own conclusions about the alleged harm posed by certain PFAS in biosolids and the actions the Agency must take in response.

NACWA meets the requirements of intervention as of right under Federal Rule of Civil Procedure 24(a)(2). NACWA's members are directly responsible for managing the millions of tons of biosolids produced every year pursuant to EPA's biosolids regulations, and as such, they have a direct interest in any changes to those regulations and the determinations underlying them. The available options for managing municipal biosolids and the costs of those options – both of which are critical considerations for NACWA's members and the communities they serve – could be affected by the outcome of this litigation. Likewise, the ability of NACWA's members to utilize the biosolids management options that are most protective of human health and the environment, taking into account relevant local and regional conditions, could be placed in jeopardy. As a representative of the municipal entities implementing biosolids regulations, NACWA's interests are distinct from those of EPA's – the federal agency tasked with developing and enforcing those

[8] EPA, *Study of PFAS Influent to POTWs* (Mar. 19, 2024), https://www.epa.gov/eg/study-pfas-influent-potws.

regulations. NACWA's Motion is timely and does not negatively impact any party's interests, and should thus, be granted. In the alternative, NACWA meets the requirements for permissive intervention under Rule 24(b)(1)(B) because NACWA's defenses are based on interpreting section 405 of the Clean Water Act and Section 706 of the APA and rely on facts common to both Plaintiffs and Defendant. NACWA raises no new claims.

STATEMENT OF FACTS

Biosolids are byproducts of a wastewater treatment process in which a POTW separates liquids from solids and then treats the solid or semi-solid products to reduce bacteria and pathogens to safe levels. Biosolids are managed in three primary ways: land application, landfilling, and incineration. These methods of management have been vetted through decades of scientific study and are governed by the Part 503 rules as well as state regulations and local ordinances. Managing biosolids in a manner protective of human health and the environment is one of the most critical public services clean water agencies provide to the communities they serve. Due to the limited number of biosolids management options, actions impacting the availability of any one form of management will necessarily have cascading effects on the capacity of and costs associated with the other two in light of the sheer and unrelenting volume of biosolids generated in this country daily.

Utilities manage nearly 60% of biosolids through land application, a sustainable practice that benefits both the environment and farmers.[9] Land application provides critical nutrients for crops, including nitrogen, phosphorus, and potassium, and many micronutrients. The bulk properties of biosolids improve soil structure, restore vitality to degraded lands (such as those

[9] EPA, *Basic Information about Biosolids* (Dec. 15, 2023), https://www.epa.gov/biosolids/basic-information-about-biosolids.

impacted by fire or mining), and sequester carbon.[10] Land application of municipal biosolids also reduces reliance on synthetic chemical fertilizers and pesticides. Municipal biosolids can also provide a more affordable option compared to commercial fertilizers, particularly for small and part-time farmers. Applying biosolids on land for agricultural purposes also plays a major role in reducing greenhouse gas emissions, which is a national policy goal in the United States and for many individual states.

In addition to land application, municipalities can also landfill biosolids in a monofill (a landfill that only accepts biosolids) under the CWA Part 503 regulations or co-dispose them in a municipal solid waste landfill under 40 C.F.R. Part 258. To landfill biosolids, they must either be dried to reduce moisture content, which is energy- and cost-intensive, or bulky materials must be added to stabilize them, which increases their volume. Importantly, landfill capacity in certain areas of the country is already extremely limited, and in some regions, existing landfills – which are often located in disadvantaged communities – are near capacity (e.g., Massachusetts is currently at 87% capacity).[11] Preserving biosolids management options in addition to landfilling is therefore very important to clean water utilities.

Finally, clean water agencies can manage biosolids through incineration in sewage sludge incinerators. While incinerators are still utilized in certain regions of the country, stringent Clean Air Act standards have resulted in an overall decrease in incinerator capacity over the last 15

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[10] *See generally id.*; NACWA, Biosolids and PFAS: Maintaining Management Options 4 (June 2022) (attached hereto as Exhibit A).

[11] Massachusetts Department of Environmental Protection, *2022 Solid Waste Data Update* (Nov. 2023), https://www.mass.gov/doc/2022-solid-waste-data-update/download; EPA, *Municipal Solid Waste Landfills Economic Impact Analysis for the Proposed New Subpart to the New Source Performance Standards* (June 2014), https://www3.epa.gov/ttnecas1/docs/eia_ip/solid-waste_eia_nsps_proposal_07-2014.pdf; Exhibit A, at 4-5.

years.[12] And for much of the country, siting and permitting challenges have kept utilities from bringing new incinerators online, precluding their use for significant biosolids management operations. The Part 503 rules apply to POTWs, land appliers, surface disposal sites, sewage sludge incinerators, and other users or disposers of biosolids. The rules impose pollutant limits, management practices, and operational standards for land application, landfilling, and incineration of biosolids. Part 503 requirements are incorporated into and enforced through the National Pollutant Discharge Elimination System ("NPDES") permits of biosolids generators, including clean water agencies.

PFAS are a class of synthetic chemicals manufactured since the 1940s for use in many consumer products and industrial applications due to their water and heat repelling and other properties. Because of their durability, trace amounts of PFAS can be found throughout the world ecosystem, including the human body. PFAS enter wastewater treatment systems through upstream domestic (i.e., household), industrial, and commercial sources, including household products like PFAS-treated clothing, upholstery, and carpets, resulting in PFAS going down the drain and into the sewer system. Even with reduction in the use of certain PFAS in products, legacy products will continue to contribute PFAS to sewer systems for the foreseeable future, and discarded materials in landfills can add PFAS to leachate that is treated by POTWs. Public utilities are not designed to treat, remove, or destroy PFAS and have no readily available treatment options for the trace amounts of PFAS in the many millions of gallons of wastewater treated daily at a typical POTW.

[12] *See* 42 U.S.C. § 7429; 40 C.F.R. Part 60 Subparts O, LLLL, MMMM; 40 C.F.R. Part 62 Subpart LLL.

The Clean Water Act provides the level of treatment that POTWs must achieve. This statutorily-mandated treatment consists of two levels: primary and secondary treatment. Primary wastewater treatment physically separates solids from liquids, and secondary treatment uses beneficial microbes to remove remaining soluble organic material. Neither of these processes are designed to treat or remove PFAS.[13]

The CWA requires EPA to identify toxic pollutants that "may be present in sewage sludge in concentrations which may adversely affect public health or the environment" and promulgate regulations establishing acceptable management practices and numeric limitations for such pollutants. 33 U.S.C. § 1345(d). CWA Section 405(d)(2)(A) required EPA to identify these toxic pollutants "on the basis of available information on their toxicity, persistence, concentration, mobility, or potential for exposure" and promulgate regulations. 33 U.S.C. § 1345(d)(2)(A). CWA Section 405(d)(2)(B) required EPA to identify toxic pollutants not identified under Section 405(d)(2)(A) and promulgate final regulations establishing management standards and numeric limitations. 33 U.S.C. § 1345(d)(2)(B). EPA fulfilled these statutory requirements by promulgating the final rule Standards for the Use or Disposal of Sewage Sludge, 58 Fed. Reg. 9,248 (Feb. 19, 1993) (codified at 40 C.F.R. Part 503). The CWA additionally requires EPA to review the biosolids regulations every two years "for the purpose of identifying additional toxic pollutants and promulgating regulations for such pollutants." 33 U.S.C. § 1345(d)(2)(C).

[13] In light of the challenges of treating PFAS at the POTW, NACWA's members have consistently advocated for EPA to undertake enhanced source control efforts, non-essential product elimination, and safer alternatives to mitigate the PFAS coming into sewer systems. *See* EPA, PFAS Treatment in Drinking Water and Wastewater – State of the Science (Nov. 7, 2023), https://www.epa.gov/research-states/pfas-treatment-drinking-water-and-wastewater-state-science#:~:text=It%20is%20currently%20known%20that,and%20high%2Dpressure%20membrane%20systems. ("It is currently known that three treatment processes can be effective for PFAS removal: granular activated carbon, ion exchange resins, and high-pressure membrane systems.").

In compliance with the CWA, EPA published its Biosolids Biennial Report No. 9 for the reporting period 2020–2021 in December 2022. EPA identified 13 new pollutants warranting further study, including 3 PFAS, based on its consideration of the available data. EPA is currently conducting a risk assessment on two PFAS, PFOA and PFOS, to determine whether they may harm human health or the environment.[14] The risk assessment for PFOA and PFOS as identified in EPA's Strategic Roadmap will serve as the basis for determining whether regulation of these two PFAS chemicals in biosolids under Part 503 is appropriate.

In developing potential regulations for PFAS, EPA must incorporate public input through both informal meetings with stakeholder groups and formal evaluation through notice and comment rule making. *See* 33 U.S.C. § 1345(d)(1) (requiring EPA to consult with "other interested persons" prior to developing and publishing biosolids regulations). This will necessarily include consideration of the limited biosolids management options available to municipalities, including the environmental and human health benefits and risks associated with each, and the negative consequences that could result from removing any one from consideration.

The present lawsuit bluntly seeks to circumvent EPA's procedures and have the Court order EPA to regulate certain PFAS in biosolids before EPA has had the chance to assess whether such regulation is warranted. Plaintiffs' requested relief countermands CWA Section 405(d), which requires that EPA find an adverse effect to public health or the environment prior to regulation, and could arbitrarily limit NACWA members' options for managing biosolids in a manner protective of human health and the environment. Imposition of additional regulations could also impose increased sampling costs and treatment requirements on NACWA's members.

[14] EPA, *PFAS Strategic Roadmap: EPA's Commitments to Action* 2021–2024 at 16 (2021), https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.

Intervention is necessary for NACWA to protect the interests of its membership. At stake is the ability of clean water agencies to provide one of the most fundamental human health and environmental services in modern society – the safe and reliable around-the-clock management of the billions of gallons of municipal wastewater and millions of tons of biosolids produced by the American public every year.

ARGUMENT

NACWA plainly qualifies for intervention under well-established federal law. Rule 24 provides two avenues for a party to intervene in a federal lawsuit. *First*, NACWA is entitled to intervene as a matter of right pursuant to Rule 24(a). *Second*, in the alternative, NACWA may be granted permissive intervention pursuant to Rule 24(b). In this case, NACWA is entitled to intervene as a matter of right under Rule 24(a) because Plaintiffs' attempt to circumvent EPA's statutorily prescribed regulatory processes puts at risk NACWA members' ability to protect human health and the environment through effective biosolids management. *See infra* Section I.A. Alternatively, NACWA should be permitted to intervene under Rule 24(b) because it shares issues of common law and fact with the defenses likely to be put forth by EPA. *See infra* Section I.B. Finally, NACWA's participation in this suit is consistent with Article III's standing requirement. *See infra* Section I.C.

I. NACWA MAY INTERVENE AS OF RIGHT IN THIS LITIGATION.

NACWA easily satisfies all four requirements to intervene as of right: (1) the motion is timely; (2) NACWA claims a legally protected interest; (3) this action, as a practical matter, impairs or impedes NACWA's interest; and (4) NACWA's interest is not adequately represented by existing parties in this action. *Crossroads Grassroots Pol'y Strategies v. Fed. Election Comm'n*, 788 F.3d 312, 320 (D.C. Cir. 2015) (intervention granted where suit challenging agency action involved

potential direct regulation of intervenor-defendant); *Fund for Animals, Inc. v. Norton*, 322 F.3d 728, 731 (D.C. Cir. 2003).

This case is in its preliminary stages and NACWA's Motion does not prejudice any of the existing parties. Intervention is necessary to allow NACWA to protect its members' critical interest in how biosolids are regulated. NACWA has a vested interest in ensuring that biosolids regulation follows a science-based and analytical process that is informed by NACWA members' decades of experience with biosolids management. When EPA determines regulation is appropriate, the operational and economic interests of NACWA members are directly affected. NACWA, whose members would bear the costs – both practical and economic – of implementing any regulations that EPA is forced to promulgate as a result of Plaintiffs' action, is in a distinctly different position from EPA. As a government entity, EPA represents the general public and must balance a variety of stakeholder interests, not just the interests of municipal entities. In addition, EPA does not have the on-the-ground experience managing biosolids that NACWA's members do, nor will EPA share the costs associated with any potential changes to utility operations necessitated by the relief sought.

A. This Motion is Timely.

NACWA's intervention is timely, because it neither delays the case nor causes prejudice to any of the existing parties. *Roane v. Leonhart*, 741 F.3d 147, 151 (D.C. Cir. 2014) ("[T]he requirement of timeliness is aimed primarily at preventing potential intervenors from unduly disrupting litigation, to the unfair detriment of the existing parties."). NACWA requests intervention within a reasonable time after Defendant's Motion to Dismiss, which was filed on September 9, 2024 and well in advance of any merits decisions. *See Waterkeeper All., Inc. v. Wheeler*, 330 F.R.D. 1, 6 (D.D.C. 2018) (granting motions to intervene filed before the Court had occasion to make any merits decisions). NACWA's Motion is filed for the purpose of defending

EPA's process for regulating biosolids and ensuring that NACWA's members are afforded an opportunity to participate in the formulation of any new regulations of PFAS in biosolids, which would likely significantly impair the interests of NACWA's members. *Id.* (timeliness analysis includes weighing the need for intervention as a means of preserving movant's rights).

B. NACWA Has a Substantial Interest in this Litigation.

Through their complaint, Plaintiffs attempt to substitute their own judgment concerning the relative risks of PFAS in biosolids and appropriate response to those risks for that of EPA. While Plaintiffs claims are directed toward EPA, any changes to biosolids regulations would necessarily be implemented by NACWA members. In this Circuit, a movant that demonstrates a "legally protected interest" has a right to intervention. *Karsner v. Lothian*, 532 F.3d 876, 885 (D.C. Cir. 2008) (one of the prerequisites to intervene as of right is a legally protected interest in the action). The test for a legally protected interest "operates in large part as a practical guide, with the aim of disposing of disputes with as many concerned parties as may be compatible with efficiency and due process." *Wildearth Guardians v. Salazar*, 272 F.R.D. 4, 12–13, 15–16 (D.D.C. 2010) (internal citation and quotes omitted) (mining trade association had interest in challenge to federal agency decision authorizing coal mining leasing). NACWA's members have distinct interests: (1) ensuring that the statutory process for regulating biosolids is followed, which provides NACWA's members opportunities to be heard and establishes a rigorous scientific process to support regulatory decision-making; and (2) managing the potential public health and environmental consequences of any changes in the regulatory landscape for biosolids.

First, NACWA members have a vested interest in ensuring that the regulatory process at the heart of this litigation is not cut short. The relief that Plaintiffs demand – an order from this Court that would require EPA to regulate the Table 2 PFAS and take additional steps towards regulating the Table 1 PFAS – would upend the statutorily-prescribed, ongoing processes for

development of biosolids regulations and strip EPA of the power to determine whether those substances should be regulated in the first place. In addition to conducting its own analyses, EPA generally offers the public multiple forums of participation throughout the regulatory timeline to provide stakeholder input. EPA hosts meetings and workshops, publishes materials for feedback, and engages in formal notice and comment procedures – all crucial avenues for public engagement. NACWA has participated in these types of opportunities for public participation. Krantz Decl. ¶ 16, Exhibit B. With respect to PFAS regulation, NACWA has an interest in presenting its assessment of both the available science and technically and economically feasible management options based on the long experience of its members with biosolids management.

Plaintiffs' requested relief circumvents the regulatory process, depriving NACWA members of opportunities to present information to EPA in the normal course. NACWA must participate in this lawsuit because its advocacy could help uphold EPA's process or otherwise shape the important issues concerning how PFAS will be regulated. *See, e.g., Wheeler*, 330 F.R.D. at 7 (movant utility owners and operators had interests in lawsuit challenging state regulatory program authorizing the disposal of coal residuals); *W. Org. of Res. Councils v. Jewell*, No. CV 14-1993 (RBW), 2015 WL 13711094, at *4 (D.D.C. July 15, 2015) (mining association had interest in ensuring the federal coal management program "remains uninterrupted" to protect mining investments and operations); *Env't Def. Fund v. Thomas*, No. CV 85-1747, 1985 WL 6050, at *5 (D.D.C. Oct. 12, 1985) (decisions regarding the process of promulgating regulations may affect their content, giving rise to cognizable interests in those individuals governed by the regulations).

Second, if Plaintiffs' requested relief is granted, NACWA's members will have to directly bear the impacts that relief has on the availability of biosolids management options, as well as any associated sampling and treatment costs. Wastewater utilities safely manage biosolids through

methods authorized by Part 503 – land application, landfilling, or incineration – subject to restrictions and standards based on limits for identified toxic pollutants. The regulation of any new substance (let alone multiple substances) under Part 503 will change NACWA members' management of biosolids. Imposing pollutant limits for PFAS under Part 503 will alter NACWA members' existing disposal options, entail sampling and monitoring costs, and potentially require costly operational changes. *See* Ex. A, at 6-7. PFAS restrictions imposed on land appliers and landfills may also impact the contracts NACWA members have with third parties to dispose biosolids through these means. *Id.* at 6. These sorts of investments,[15] costs, and economic losses satisfy Rule 24(a)(2)'s interest requirement. *Ctr. for Biological Diversity v. U.S. Dep't of the Interior*, 640 F. Supp. 3d 59, 68 (D.D.C. 2022) (granting intervention to movants in suit challenging agency approval of permits to drill due to movants' financial and property interests in the permits).[16]

C. The Disposition of this Litigation May Impair or Impede NACWA's Ability to Protect its Interests.

The outcome of this case could ultimately result in huge costs for NACWA members and their communities, readily satisfying this requirement for intervention. A lawsuit has the practical consequence of impairing prospective intervenors' interests when the "disposition of the action would result in a substantial change in the status quo with respect to those interests, such that the

[15] Importantly, if EPA's regulatory process ultimately determines through a scientifically-sound evaluation that pollutant limits for PFAS in biosolids are necessary, NACWA's members will work vigorously and invest to comply with them. But Plaintiffs seek to short-circuit that process and require compliance with standards they – not EPA – deem necessary at this time.

[16] *See also Nat'l Parks Conservation Ass'n v. U.S. E.P.A.*, 759 F.3d 969, 976 (8th Cir. 2014) ("When a third party files suit to compel governmental agency action that would directly harm a regulated company, the company's economic interests in the lawsuit satisfy Rule 24(a)(2)'s recognized-interest requirement."); *Kleissler v. U.S. Forest Serv.*, 157 F.3d 964, 972 (3d Cir. 1998) (timber companies had direct and substantial interests in a lawsuit aimed at halting logging or reducing the efficiency of timber-cutting methods).

task of reestablishing the status quo if [plaintiffs] succeed [ ] . . . will be difficult and burdensome." *Wheeler*, 330 F.R.D. at 7 (quoting *District of Columbia v. Potomac Elec. Power Co.*, 826 F. Supp. 2d 227, 234 (D.D.C. 2011)) (internal quotes omitted). This requirement looks to the "practical consequences of denying intervention, even where the possibility of future challenge to the regulation remain[s] available." *Norton*, 322 F.3d at 735. Thus, even where NACWA has the ability to challenge a future EPA action regulating PFAS, this does not preclude intervention at this early stage.

Plaintiffs' demanded relief – the unsubstantiated regulation of multiple PFAS under Part 503 – may further restrict already limited options for disposal of biosolids, most importantly, the land application of biosolids, thereby leading to significant human health and environmental challenges. Incineration and landfilling are already less common methods of biosolids management.[17] Incineration is subject to strict air emission requirements, and the construction and permitting of incineration facilities can be prohibitively expensive.[18] Landfill capacity is likewise limited, and landfills often restrict the volume of biosolids they will receive because of odors and operational challenges caused by semi-liquid material.[19] Landfilling can also necessitate greater transportation distances, leading to increased costs and air emissions. *Id.*; Exhibit A, at 5. Due to these limitations and the goal of beneficial use of biosolids through recycling, the large majority of biosolids are land applied, and have been since the advent of modern, advanced wastewater treatment in the 1970s.[20]

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[17] EPA, *Basic Information about Biosolids*.
[18] EPA, *Biosolids Technology Fact Sheet Use of Incineration for Biosolids Management* (June 2003), https://www.epa.gov/sites/default/files/2018-11/documents/use-incineration-biosolids-management-factsheet.pdf.
[19] *Id.*
[20] EPA, *Basic Information about Biosolids*.

Nor is existing waste infrastructure equipped to effectively remove or reduce PFAS. Conventional waste treatment systems were not designed to do so. Technology to treat large volumes of wastewater for minute traces of PFAS is currently unavailable. Even assuming such technology becomes available, PFAS restrictions under Part 503 could require NACWA members to replace existing wastewater treatment technologies with technologies at exorbitant costs that would necessarily be passed on to the communities they serve, including low-income and environmental justice communities that are already struggling with the cost of clean water services.

Alarmingly, PFAS restrictions on the key method to managing biosolids could prohibit land application altogether. These are not mere possibilities. In response to public concern generally about PFAS, Maine, for example, passed legislation banning the land application of municipal biosolids in April 2022.[21] Utilities have been forced to transport waste residuals to landfills, or even to Canada at very high costs. *See* Ex. A, at 5. The worst-case scenario is that wastewater utilities would be left with nowhere for sewage sludge to go – creating a public health and environmental crisis. If EPA were ordered to impose PFAS restrictions in biosolids across the country, NACWA members would no doubt experience substantial changes to the status quo that would be burdensome, if not impossible, to re-establish.[22]

If successful, Plaintiffs' lawsuit would require EPA to regulate *at least* 11 PFAS under its Part 503 regulations. EPA would also be required to identify 18 PFAS in its next Biennial Report. By Plaintiffs' logic, once the 18 PFAS are identified in a Biennial Report, these PFAS would

[21] L.D. 1911, An Act to Prohibit the Contamination of Clean Soils with So-called Forever Chemicals (Apr. 1, 2022), https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP1417&item=2&snum=130.

[22] Other states, including Michigan and Maryland, have taken more informed approaches that have avoided the potentially catastrophic results of the type NACWA's members are concerned about.

require regulation under Part 503 as well. EPA could therefore be forced to prematurely take action on 29 PFAS for which the risks to human health and the environment are not established. As a result, all three management methods of biosolids – land application, incineration, and landfilling – may be unduly restricted. And any new limitation on the management methods would exacerbate the existing challenges described above.

Even if NACWA vindicated its interests later through rulemaking participation or by bringing a separate lawsuit, the task would be "difficult and burdensome." *Fed. Election Comm'n*, 788 F.3d at 320 (quoting *Norton*, 322 F.3d at 735). Any injury suffered during the interim period would be substantial and likely irreparable. *Id.* Plaintiffs' lawsuit calls for EPA determinations about the potential harms of PFAS *now*, which warrants NACWA's intervention.

D. EPA Cannot Adequately Represent NACWA's Interest.

NACWA also meets the criteria for inadequacy of representation in the litigation by the defendant federal regulator. An intervenor meets this requirement "if the applicant shows that representation of [its] interest 'may be' inadequate; and the burden of making that showing should be treated as minimal." *Norton*, 322 F.3d at 735 (quoting *Trbovich v. United Mine Workers*, 404 U.S. 528, 538 n.10 (1972)). This requirement is "not onerous." *Dimond v. District of Columbia*, 792 F.2d 179, 192 (D.C. Cir. 1986).

EPA represents the interests of the United States, while NACWA's concerns are for the specific needs of its public member agencies who are on the front lines of managing biosolids in their communities every day. The D.C. Circuit has "often concluded that governmental entities do not adequately represent the interests of aspiring intervenors." *Norton*, 322 F.3d at 736 (citing cases). EPA's decision-making may reflect the interests of many diverse parties at large, while NACWA represents the specific interests of its members who are public wastewater utilities. *Norton*, 322 F.3d at 737 (federal government did not adequately represent the "narrow and

parochial" interests of a Mongolian government entity); *Hardin v. Jackson*, 600 F. Supp. 2d 13, 16 (D.D.C. 2009) (EPA did not adequately represent economic and proprietary interests of pesticide manufacturer). NACWA, unlike EPA, represents member agencies who conduct the day-to-day operations of providing wastewater treatment services and managing biosolids. *Fowler v. U.S. EPA.*, No. CV 09-005 CKK, 2009 WL 8634683, at *4 (D.D.C. Sept. 29, 2009) (EPA did not adequately represent "economic and operational concerns" of water utility membership organizations).

As a representative of the regulated community, NACWA's interests are distinct from EPA's. "[M]erely because parties share a general interest in the legality of a program or regulation does not mean their particular interests coincide so that representation by the agency alone is justified." *Am. Horse Prot. Ass'n v. Veneman*, 200 F.R.D. 153, 159 (D.D.C. 2001) (finding USDA could not adequately represent horse advocacy group in suit challenging legality of horse training practice). While NACWA supports the legal process EPA takes to identify and evaluate potential toxic pollutants in biosolids, NACWA may have different views of the science, the risks, and the practical constraints of managing biosolids that inform how EPA should regulate biosolids. NACWA counts on participating in EPA's forums for commenting and participation to bring its unique perspective to the Agency.

II. ALTERNATIVELY, THE COURT SHOULD GRANT NACWA PERMISSIVE INTERVENTION.

NACWA also satisfies permissive intervention criteria. NACWA has claims or defenses that share common questions of law or fact with the main action, meeting the requirements of Rule 24(b)(1)(B). Rule 24(b) "provides basically that anyone may be permitted to intervene if his claim [or defense] and the main action have a common question of law or fact." *Nuesse v. Camp*, 385 F.2d 694, 704 (D.C. Cir. 1967); *see also EEOC. v. Nat'l Children's Ctr., Inc.*, 146 F.3d 1042, 1045–

46 (D.C. Cir. 1998) (Rule 24(b)'s "claim or defense" requirement has the goal of disposing related controversies together). The Court also "must consider whether the intervention will unduly delay or prejudice the adjudication of the original parties' rights." *Black v. LaHood*, No. CV 11-1928 (JEB), 2012 WL 13054502, at *1 (D.D.C. Apr. 30, 2012) (quoting Fed. R. Civ. P. 24(b)(3)) (granting permissive intervention to non-profit organizations who had similar defenses to the Department of Transportation's positions).

As described above, NACWA's Motion is timely and will not unduly delay or prejudice the existing parties in this litigation. NACWA's claims or defenses share a common question of law or fact with the main action. The questions arise from EPA's statutory duties under CWA Section 405(d) to identify and regulate pollutants and whether EPA's actions taken in the Biennial Report are sufficient to meet the statute's requirements. Like EPA, NACWA seeks to uphold the rightful procedural requirements to developing Part 503 regulations. *See Ass'n of O&C Counties. v. Trump*, No. CV 17-280, 2018 WL 11241964, at *1 (D.D.C. Jan. 22, 2018) (granting permissive intervention to non-profit organizations who shared similar defenses with defendant federal government's Monument designation).

III. NACWA IS NOT REQUIRED TO DEMONSTRATE ARTICLE III STANDING, BUT IF REQUIRED, CAN DEMONSTRATE REPRESENTATIONAL STANDING.

If this Court determines an intervenor requires Article III standing, NACWA is a trade association entitled to intervene on behalf of its members.[23] *See Fund Democracy, LLC v. SEC.*,

[23] NACWA is not required to demonstrate Article III standing. A party seeking to intervene but not invoking a court's jurisdiction or seeking additional relief does not need to demonstrate independent Article III standing. *See Env't Integrity Project v. Wheeler*, No. 20-cv-1734 (KBJ), 2021 WL 6844257, at *2 (D.D.C. Jan. 27, 2021) (Brown Jackson, J.) (granting trade groups' motion to intervene, provided that movants were seeking to intervene as defendants and not invoking the court's jurisdiction) (citing *Va. House of Delegates v. Bethune-Hill*, 139 S. Ct. 1945, 1951 (2019)); *see also Town of Chester v. Laroe Estates, Inc.*, 581 U.S. 433, 440 (2017)

278 F.3d 21, 25 (D.C. Cir. 2002) ("An association only has standing to bring suit on behalf of its members when its members would otherwise have standing to sue in their own right, the interests it seeks to protect are germane to the organization's purpose, and neither the claim asserted nor the relief requested requires the participation of individual members . . . ."). The issues in this case directly impact NACWA's members, who will individually bear the consequences resulting from the granting of Plaintiffs' relief. Neither Plaintiffs' claims nor the requested relief – both of which exclusively involve EPA action – require members to participate in their individual capacities. A finding of representational standing on behalf of NACWA is appropriate.

CONCLUSION

Plaintiffs challenge EPA's regulation of one of the most basic environmental services provided by NACWA's members: the management of biosolids from the wastewater treatment process generated by over 330 million Americans. NACWA's members are the entities responsible for performing this function in a manner protective of human health and the environment and should participate in this lawsuit.

Based on the above, NACWA meets the requirements for intervention as of right pursuant to Fed. R. Civ. P. 24(a)(2) or in the alternative, permissive intervention pursuant to Fed. R. Civ. P. 24(b)(1). In addition, NACWA submits the attached Motion to Join Defendants' Motion to Dismiss Plaintiffs' Second Amended Complaint to be filed if NACWA's Motion to Intervene is granted. NACWA will serve a responsive pleading, if necessary, in accordance with Rule 12(a)(4).[24]

(observing Article III standing is required when a movant is seeking relief different from relief sought by a plaintiff with standing).

[24] *Accord 6 Moore's Federal Practice - Civil § 24.20* ("[A] court may approve an intervention motion that is not accompanied by a pleading if the court is otherwise apprised of the grounds for the motion." (collecting cases)). Under the circumstances of this case, adjudication of the government's motion to dismiss before requiring any party – including NACWA – to answer

Dated: September 26, 2024

Respectfully submitted,

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provides for the most efficient and orderly sequencing for the case in accordance with Fed. R. Civ. P. 1.

CERTIFICATE OF SERVICE

I hereby certify that on September 26, 2024, a true copy of the foregoing Memorandum in Support of the Proposed Intervenor-Defendant NACWA's Motion to Intervene was filed through the CM/ECF system and notice sent by the Court's electronic filing system to counsel of record.

/s/ *James B. Slaughter*
James B. Slaughter (D.C. Bar No. 417273)

EXHIBIT A

NACWA

Biosolids and PFAS: Maintaining Management Options is Critical to Communities and Sustainability | June 2022

An increasingly urbanized and populous nation requires effective and efficient systems for managing municipal waste streams – systems that safeguard human health and the environment and advance sustainability. As Americans carry out their daily lives, more than 15,000 publicly owned treatment works ("POTWs") nationwide[1] are one of these key systems, providing critical anchor infrastructure services treating 34 billion gallons of wastewater daily.[2] The wastewater treatment cycle is essential to protecting public health, advancing water quality, and bolstering vibrant communities, and is a true benefit of a modern society.

As part of the municipal wastewater treatment process, liquids are separated from solids. The solids are treated and result in a semisolid product referred to as biosolids.[3] Wastewater agencies manage these biosolids through three primary approaches – land application, landfilling, and incineration. Each of these options is critical to municipalities across the country, has undergone decades of scientific study, and is governed by a robust set of federal, and often additional state, regulations, as described below.

The biosolids field is a dynamic one, with municipal wastewater utilities being a driving force behind innovative policy development, essential partnerships with governments at all levels, and community engagement. Recently, however, some states are making premature policy choices concerning biosolids management due to the significant scientific uncertainty – and, at times, public confusion and fear - surrounding a suite of emerging contaminants known as per- and polyfluoroalkyl substances, or PFAS.[4]

PFAS have been designed by scientists not to break down in the environment, which is why they are often called "forever chemicals." PFAS are in countless commercial, consumer, and industrial products[5] and are acknowledged by the U.S. Environmental Protection Agency ("EPA") to be widely present in the environment.[6] Due to their prevalence and evolving concerns around the risks they may pose to human health and the environment, EPA in 2021 published its most recent PFAS Strategic Roadmap, which committed the Agency to an integrated approach focusing on investigating, restricting, and remediating PFAS contamination.[7]

PFAS enter public wastewater treatment systems through industrial, commercial, and domestic sources. Activities ranging from washing PFAS-treated pots and pans to putting out fires with certain foams can all introduce PFAS into the water supply. Because of this ubiquity in the environment, it is likely that PFAS can be found in trace or even higher levels in municipal biosolids. Understanding more about how they are transported and what risk they may pose to public health and the environment is critical.

Public clean water agencies are proactively engaged in advancing the national discussion and understanding of PFAS, but they are also deeply committed to their primary responsibility of providing sustainable, affordable clean water to communities nationwide. This necessarily entails

the management of biosolids, and neither the federal government nor the states should limit municipal management options prior to undertaking scientific rigor and honest, comprehensive policy assessments.

Curtailing biosolids management options in a vacuum, without adequate consideration of risk, sustainability, treatment or destruction technology, or available alternative management options, poses a serious threat to the economic and environmental sustainability of local communities and could upend decades of well-established municipal practices. Identifying solutions will not be nearly as easy as identifying potential concerns, but reason and practicality dictate that it must be done before responses are taken that tie the hands of municipalities and create even more intractable problems.

PFAS in Biosolids

When thinking of PFAS in biosolids, it is important to start with one key fact: PFAS presence in biosolids is the inevitable byproduct of widespread continued manufacture, use, and disposal of PFAS chemicals in upstream sources. Over 650 PFAS chemicals are used in commerce today—a number that continues to expand as industry develops new chemicals.[8] PFAS are used in varying degrees in everyday commercial products like non-stick cookware, stain resistant clothing and other fabrics, cosmetics, firefighting foams and construction products. PFAS are also commonly used in electronics, automotive, and aerospace manufacturing.

All of these uses contribute to PFAS going down the drain and into wastewater treatment plants. Once PFAS-bearing waste is discharged into wastewater streams, the onus falls on wastewater treatment facilities – obligate receivers of PFAS chemicals – to then grapple with the contamination. Currently, public wastewater utilities do not and cannot treat for PFAS, in large part due to the sheer volume of water they handle. PFAS chemicals therefore pass through the treatment works and remain in biosolids.[9]

The primary method employed by wastewater agencies to proactively restrict industrial pollutants that may interfere or pass through the treatment works is the Clean Water Act ("CWA") pretreatment program. This program helps stop chemicals from disrupting the treatment system itself or from getting into biosolids.[10] POTWs also partner with their local communities to advance important pollution prevention programs, such as pharmaceutical takeback programs and household chemical waste collections. All of these activities lower the types and volume of pollutants entering treatment plants, and by extension, reaching biosolids.

The pretreatment program will undoubtedly play a major role in addressing PFAS contamination going forward. EPA's PFAS Strategic Roadmap calls on the Agency to "require pretreatment programs to include source control and best management practices to protect wastewater treatment plant discharges and biosolid applications."[11] Importantly, however, while the pretreatment program can help limit PFAS reaching biosolids from industrial sources, it cannot be used to address domestic sources of PFAS contamination.

EPA also regularly assesses pollutant trends in biosolids,and is in fact mandated by the CWA to identify new pollutants in biosolids including through regular literature reviews.[12] After identifying new pollutants in biosolids, EPA undergoes a problem formulation to understand fate and transport pathways of the chemical and its risk to public health and the environment. If risk is found, EPA begins a regulatory process outlined by the CWA to regulate and set standards. However, simply because EPA embarks down a risk assessment does not predetermine that a risk will be found. For example, EPA has assessed many chemicals, including dioxins and furans, that are extremely toxic to public health but are not found in biosolids in concentrations sufficient to warrant regulatory standards.

In EPA's most recent review of pollutants in biosolids, EPA identified eight PFAS in biosolids, and is undergoing a problem formulation process which:

> *"... will serve as the basis for determining whether regulation of PFOA and PFOS in biosolids is appropriate. If EPA determines that a regulation is appropriate, biosolids standards would improve the protection of public health and wildlife health from health effects resulting from exposure to biosolids containing PFOA and PFOS."*[13]

The outcome of EPA's review will underscore critical regulatory and policy decisions with respect to biosolids management options. While it undertakes this PFAS assessment, however, it is key for EPA to communicate its support for existing, well-regulated biosolids management options to the public, policy makers, and the regulated community.

Existing Federal Requirements Advance Sound Biosolids Management

Any biosolids management policy decisions must be made in the context of EPA's robust existing regulatory regime under 40 C.F.R. Part 503.[14] The comprehensive Part 503 regulations are focused on ensuring that biosolids are handled in a manner that is protective of human health and the environment, no matter which management option is chosen.[15]

Clean water agencies that manage biosolids through incineration utilize sewage sludge incinerators ("SSI"), which are subject to a range of requirements, from pollutant-specific limits to operating requirements and endangered species protections. Under the CWA, SSIs must meet risk-based pollutant limits for metals, hydrocarbon standards and management practices, and monitoring, recordkeeping, and reporting requirements.[16] SSIs are also covered under the Clean Air Act ("CAA"), particularly Section 129, which sets numerical emissions standards for certain pollutants and requires operator training, among other requirements.[17]

Municipalities can also choose to landfill biosolids in a monofill (a landfill that only accepts biosolids) under the CWA Part 503 regulations or co-dispose them in a municipal solid waste landfill under 40 C.F.R. Part 258. The 503 regulations mandate specific metal limits;[18] and both the monofill and co-disposal regulations require runoff and leachate collection/disposal;[19] pathogen reduction and vector attraction reduction;[20] and monitoring and recordkeeping.[21] A variety of other requirements also apply under these programs, including those pertaining to species

protection, flood prevention, siting criteria, restrictions on access, grazing and growing, and groundwater protection.[22]

Finally, most clean water agencies manage biosolids through sustainable land application. Biosolids land application has been consistently heralded as an incredible example of resource recovery, as well as a dynamic field of innovation and improvement related to the creation of new biosolids products and uses. In fact, more than 60% of biosolids generated in the U.S. are land applied,[23] with wastewater agencies choosing land application for the sustainability of the practice as well as its many co-benefits.

Land applied biosolids are subject to stringent regulations. They can contain only limited concentrations of certain metals under the CWA Part 503 program,[24] must meet either Class A or Class B requirements for pathogen reduction, and are subject to requirements for vector attraction reduction. Land applied biosolids are organized by EPA into classes protective of public health and the environment,[25] and can be distributed in either bag or bulk depending on their type and pathogen class with appropriate labeling.[26] See Tables 1 and 2 at Appendix A.

Restrictions on the planting and harvesting of food crops, animal grazing, and public access apply to Class B biosolids.[27] And both Class A and B biosolids may be subject to management practices[28] depending on the type of biosolid and pathogen class, including packaging and location of application limitations.[29] Additionally, as with the other biosolids management options, wastewater utilities regularly monitor the pollutants in land applied biosolids.[30]

Retaining Current Biosolids Management Options is Essential

There are compelling national and local policy reasons to ensure that a full range of biosolids management options remain available to wastewater agencies. From a scientific point of view, EPA and researchers are learning about ways to mitigate PFAS in biosolids and the initial findings are promising. As the science becomes more certain and EPA's work continues, wastewater agencies are considering proactive source control approaches. They are also involved in the national policy dialogue to ensure that sources ultimately found to cause PFAS contamination are held accountable.

From a practical perspective, biosolids offer several social and environmental benefits. They are rich in nitrogen and low in phosphorous, which translates to reduced environmental impact when compared to synthetic fertilizers.[31] Indeed, studies have repeatedly demonstrated that amending soils with biosolids can improve crop yields and vegetative growth, enhance soil water holding capacity, and increase carbon and nitrogen storage in soil.[32] Moreover, recent data shows that soils amended with biosolids act as carbon sinks,[33] suggesting that biosolid land application may have a role to play in helping to reduce atmospheric carbon and avoiding depleting the remaining global carbon budget.

There is even more reason to reuse and tap into the benefits of biosolids considering shrinking landfill capacity across the country. As of 2021, there is on average approximately 15 years of

remaining landfill capacity in municipal solid waste landfills in all regions of the United States,[34] with the northeast estimated to have only eight years of landfill capacity left.[35] For many utilities, landfilling may already be the only feasible option for biosolids management, or it may become so should either land application or incineration become less available. Beneficial reuse, where possible, can help alleviate this landfill capacity pressure nationwide.

Incineration capability in the U.S. is likewise not increasing and has, in fact, always been limited based on certain geographic and economic factors.[36] For utilities using incineration, however, switching to land application can be an expensive or infeasible option, as it requires digestion equipment incineration utilities do not have, as well as nearby land which may be lacking.

Utilities therefore need access to all three biosolids management approaches. Nevertheless, the mere presence of PFAS in biosolids, even at trace levels, is causing some state regulators and, at times, the public to react in fear and prematurely limit local options. For example, the State of Maine[37] recently banned the land application of biosolids, regardless of PFAS concentration, before undertaking any effort to understand the magnitude and depth of PFAS contamination in the state, let alone the true sources of PFAS contamination. In fact, industrial sludges, which are not subject to CWA or state regulations, are often the true sources of contamination, but can be confused with municipal biosolids. This might have been a key underlying factor in Maine.

In another case, Massachusetts recently proposed a bill establishing a moratorium on procuring new structures or modifying existing uses or structures that may generate PFAS emissions. If passed, the bill would effectively halt the construction of new SSIs or any improvements needed for existing SSIs in the state, though the legislature failed to adequately consider the ramifications of doing so.[38] And several other states have taken varying levels of action regarding biosolids which, due to the uncertainties over risk, have included ambiguous and at times conflicting requirements. See Appendix B.

Hasty and ill-informed reactions to a complicated and nuanced scientific issue will have dire consequences for not only clean water utilities, but also critical local, state, and federal environmental goals. For example, removal of land application as a biosolids management option would necessitate increased transportation of heavy solids, adding to air quality and nuisance issues in communities, including those that did not generate the biosolids in the first place. Some communities with limited biosolids management options are already having to transport them vast distances, including internationally to Canada – this is not a hypothetical result.[39]

Such transportation in turn raises serious environmental justice concerns. Should a disadvantaged community subject to less stringent regulatory oversight bear the burden of a state that simply does not want potential PFAS in its own backyard?

Similarly, if biosolids are solely landfilled because of prohibitions on land application and increasingly limited incineration options, the increased generation of leachate will require further treatment at wastewater treatment plants in an unending cycle. And there are growing concerns

around current and future landfill capacity and stability related to the potential increased placement of high-liquid material.

Land application moratoriums, even temporary and localized ones, can also have ripple effects on how clean water utilities secure contracts with biosolids management companies, according to a comprehensive study in 2021 by NACWA and other water treatment groups.[40] For example, Pima County, Arizona biosolids management costs doubled during a land application moratorium of less than a year between 2019 and 2020, when biosolids were required to be landfilled.[41] The ban was ultimately lifted after a key study[42] found that the low PFAS concentrations in the biosolids posed essentially no risk due to the fact that there were few industrial dischargers to the wastewater plant and no migration of PFAS into deep groundwater aquifers. But thousands of other wastewater treatment plants throughout the country are still at risk of losing critical biosolids management options due to similarly rushed and poorly grounded policy decisions.

Any PFAS policies developed for municipal biosolids that are disconnected from time-tested scientific information and methodologies – such as documented adverse health or environmental impacts at the levels of PFAS present, exposure assessments, concentration limits, or other considerations – will unduly limit management options for biosolids.

Biosolids are an unavoidable byproduct of wastewater treatment, and wastewater treatment is a cornerstone of public health, disease prevention, and environmental progress. An extensive regulatory regime applies to the management of municipal biosolids to ensure their appropriateness for land application, incineration, or landfilling, and utilities not just in the U.S. but around the world have been successfully managing biosolids with these methods for decades.

Should the science demonstrate the need to regulate PFAS in municipal biosolids, utilities stand ready to do their part to continue their public stewardship, but there must be a practical path forward towards eliminating PFAS from constant reintroduction into treatment works while continuing the time-tested, sustained and needed options for biosolids management. Recent studies show promise in identifying ways to reduce the mobility of PFAS in biosolids. The clean water community remains committed to contributing to these efforts to help address the problem, should source control and pollution prevention efforts fall short.

Next Steps

Addressing the risks posed by PFAS requires getting a grasp on where PFAS are found, in what concentrations, and where they are coming from. The CWA and EPA's regulations have structures in place to identify and mitigate emergent chemicals like PFAS, and it is incumbent on policy makers to turn to those structures in lieu of harmful, rash decision-making.

Understanding the industrial and commercial sources coming into a treatment system is a must; absent any cohesive action to substantially curb the manufacture, use, and disposal of PFAS, states and communities will still have a PFAS problem even if they limit the management options for biosolids out of fear of PFAS contamination.

Appropriate implementation of the CWA's industrial pretreatment program and congressional funding will also help public clean water agencies further mitigate PFAS concerns. And the federal government should be using every statutory tool at its disposal to eliminate non-essential PFAS uses to reduce and mitigate PFAS in everyday consumer goods. A comprehensive program that incorporates product stewardship which prevents the constant introduction of these chemicals into the environment is essential in reducing exposure to the public. Focusing on clean-up after the fact without a program of reducing PFAS production and introduction will not protect public health or the environment.

Michigan's long-term PFAS monitoring efforts and interim biosolids strategy provide an example of how tracing industrial sources of PFAS contamination in wastewater streams can be done while continuing the land application of biosolids.[43] Colorado likewise provides an example of how, once sources have been identified, states can work with industry and municipal wastewater utilities to initiate and develop mechanisms for PFAS source reduction.

Additionally, PFAS policies that do not close the door on innovation are needed. For example, incorporating pyrolysis and gasification into the biosolid management toolkit in the future can enhance the reusability and safety of biosolids. Pyrolysis and gasification decompose substances at elevated temperatures with reduced airflow, which lowers the size and cost of air pollution control equipment. EPA studies of pyrolysis and gasification have shown positive findings regarding PFAS minimization.[44] Pyrolysis and gasification can also produce hydrogen-rich synthetic gases ("syngas"), a valuable source of clean energy.[45]

Conclusion

Curtailing biosolids management options in a vacuum, without consideration of risk, sustainability, treatment technology and available alternatives, poses serious economic and environmental risks to municipalities nationwide. Rather than taking options off the table, it is essential to preserve all three primary biosolids management approaches while continuing to look for new, innovative practices that could provide public wastewater agencies with more options as they sustainably manage the nation's biosolids production and provide clean water for communities across the country.

Appendix A

Table 1. Types of biosolids and corresponding requirements

Biosolid Type	Pathogen Class and Distribution	Pollutant Limit Standard	Pathogen Reduction	Vector Attraction Reduction
Pollutant Concentration (PC) Biosolid	A Bulk Only	Pollutant Concentration, 503.13(b)(3)	Any Class A option	Option 9 or 10, 503.33(b)(9), (10)
	B Bulk Only	Pollutant Concentration, 503.13(b)(3)	Any Class B option	Any option 1–10, 503.33(b)(1)–(10)
Cumulative Pollutant Loading Rate (CPLR) Biosolid	A Bulk Only	Cumulative Pollutant Loading Rate, 503.13(b)(2)	Any Class A option	Any option 1–10, 503.33(b)(1)–(10)
	B Bulk Only	Cumulative Pollutant Loading Rate, 503.13(b)(2)	Any Class B option	Any option 1–10, 503.33(b)(1)–(10)
Annual Pollutant Loading Rate (APLR) Biosolid	A Bag Only	Annual Pollutant Loading Rate, 503.13(b)(4)	Any Class A option	Any option 1–8, 503.33(b)(1)–(8)

Table 2. Types of biosolids and corresponding site restrictions and required management practices

Biosolid Type	Pathogen Class and Distribution	Site Restrictions	Management Practice Requirements
Pollutant Concentration (PC) Biosolid	A Bulk Only	NO	YES
	B Bulk Only	YES	YES
Cumulative Pollutant Loading Rate (CPLR) Biosolid	A Bulk Only	NO	YES
	B Bulk Only	YES	YES
Annual Pollutant Loading Rate (APLR) Biosolid	A Bag Only	NO	YES

Appendix B: Select State Actions on PFAS and Biosolids

Florida: Testing. In 2021, the Florida Department of Environmental Protection (FDEP) adopted a Per- and Polyfluoroalkyl Substances Dynamic Plan which prioritizes testing at biosolid disposal facilities for potential PFAS contamination. The plan states that while EPA is working on PFAS testing and programs, the state will be working on ways to more effectively detect/address PFAS contamination from biosolids but offers no specifics.[46]

Michigan: Select Land Application Prohibition. Michigan's Department of Environment, Great Lakes, and Energy (EGLE) released in April 2022 an updated Interim Strategy[47] for PFAS in biosolids, building on its 2018 Industrial Pretreatment Program (IPP) PFAS Initiative,[48] which works with wastewater treatment plants to identify, reduce, and monitor sources of PFOS. The goal is to reduce PFOS concentrations in treated wastewater.

As a result of its wastewater treatment initiative, Michigan claims that most of its sampled public wastewater treatment plants saw reductions of 90 to 99% in PFOS wastewater concentrations.[49] The updated Interim Strategy also prohibits land application of biosolids containing more than 125 ppb of PFOS, which is a more stringent threshold from EGLE's original 150 ppb limit from 2021. Any wastewater treatment plants that exceed this threshold are barred from land applying until they develop long-term pretreatment and source reduction measures and can consistently show that their wastewaters are testing below 125 ppb.

While this PFOS threshold is based on the Michigan's long-term PFOS monitoring efforts at several wastewater treatment plants, the State reports that it is not a "risk-based number."[50] Rather, Michigan chose the number simply because its studies indicated that 150 ppb (the original 2021 threshold) was the "break-point" between general contamination and industrial contamination.[51] It is unclear whether Michigan has engaged in further studies to determine the significance of this "break-point" on public health and environmental protection. As a policy matter, PFOS-related restrictions on biosolid land application should be based on thorough risk analyses and not hasty line drawing.

Minnesota: Studying. In 2019 the Minnesota Pollution Control Agency (MPCA) requested $1.4 million from the state legislature to "evaluate and characterize" PFAS concentrations in land-applied biosolids[52] as part of its "PFAS Blueprint."[53] MPCA received approval for its request in 2020, and funding for the initiative is effective from July 2021 to June 2024.[54]

North Carolina: Studying. In November 2020, North Carolina awarded $101,792 to UNC Charlotte to study whether biosolids land application contributes to PFAS occurrence in surface water, groundwater, and soil statewide.[55] The 2019 Session of the General Assembly of North Carolina introduced House Bill 1108, which directs the Department of Environmental Quality to study the presence of PFAS in land applied biosolids and the likely categories of sources for any PFAS detected.[56] House Bill 1108 did not pass and was reintroduced in 2021 as House Bill 502 with largely identical provisions.

Wisconsin: Select Land Application Discouraged. The Wisconsin legislature in 2021 introduced the CLEAR Act, which would establish a municipal grant program that would provide funding for investigating potential PFAS contamination and reducing or eliminating existing PFAS pollution. Listed among those eligible to apply for municipal grants are parties who have previously applied biosolids to land under a water pollution permit.[57] The CLEAR Act failed to pass in March 2022 pursuant to a state senate joint resolution.

Echoing Michigan's 2021 policy, Wisconsin's Department of Natural Resources (WDNR) states that biosolids containing more than 150 ug/kg of PFAS should not be land applied, and that future water pollution/discharge permits are likely to include language prohibiting land application of biosolids containing more than 150 ug/kg of PFAS.[58] However, it is unclear whether WDNR relied on scientific studies or conducted thorough risk assessments to arrive at its 150 ug/kg threshold.

Vermont: Testing Before Application. Vermont requires all biosolids intended for land application to be tested for PFAS prior to application.[59] Moreover, exceptional quality biosolids must be accompanied with a label stating that the product may contain PFAS.[60] In 2022, the Vermont State Legislature introduced House Bill 650, which proposes a ban on biosolids land application if the biosolids are found to be contaminated with PFAS or microplastics.[61] A sibling bill from 2022, House Bill 710, would prohibit landfills from accepting solid wastes and biosolids, if the material contains PFAS.[62]

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[1] EPA, *PFAS Treatment in Biosolids: State of the Science,* (Sept. 23, 2020), https://www.epa.gov/sites/default/files/2020-10/documents/r1-pfas_webinar_day_2_session_6_mills_final.pdf (last visited June 1, 2022).
[2] EPA, *The Sources and Solutions: Wastewater*, https://www.epa.gov/nutrientpollution/sources-and-solutions-wastewater (last visited June 1, 2022).
[3] Over four million dry metric tons of biosolids are produced annually. EPA, *Basic Information About Biosolids*, https://www.epa.gov/biosolids/basic-information-about-biosolids (last visited June 1, 2022).
[4] Interstate Technology Regulatory Council, *History and Use of Per- and Polyfluoroalkyl Substances (PFAS)* (Apr. 2020), https://pfas-1.itrcweb.org/fact_sheets_page/PFAS_Fact_Sheet_History_and_Use_April2020.pdf.
[5] EPA, *PFAS Explained,* https://www.epa.gov/pfas/pfas-explained (last visited June 25, 2022).
[6] EPA, *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 (last visited June 27, 2022). In addition to PFAS in the environment, nearly all (97-99%) Americans have some quantity of PFAS in their blood—although most below levels of concern based on current public health research. *See* U.S. Centers for Diseases Control and Prevention, *National Report on Human Exposure to Environmental Chemicals* (2018); CDC, *PFAS in the U.S. Population* (2017).
[7] EPA, *PFAS Strategic Roadmap: EPA's Commitment to Action 2021-2024, (2021)* at 5, https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf (last visited June 25, 2022).
[8] P. Rizzuto, *White House Unveils Multiagency Plan to Cut PFAS Pollution,* (Oct. 21, 2021), (https://news.bloomberglaw.com/environment-and-energy/white-house-unveils-multiagency-plan-to-cut-pfas-pollution (citing 650 PFAS in commerce per EPA); Nat'l Inst. Of Env't Health Sci., Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), https://www.niehs.nih.gov/health/topics/agents/pfc/index.cfm (last visited June 17, 2022).
[9] EPA, *PFAS Treatment in Drinking Water and Wastewater – State of the Science,* (2020) at 38, https://www.epa.gov/sites/default/files/2020-09/documents/r1-pfas_webinar_day_1_session_3_speth.pdf

(last visited June 27, 2022); N. Bolan et al., *Remediation of Poly- and Perfluoroalkyl Substances (PFAS) Contaminated Soils – To Mobilize or to Immobilize or to Degrade?*, 401 J. HAZARDOUS MATERIALS (Sept. 9, 2020) at 4.
[10] EPA, *National Pretreatment Program,* https://www.epa.gov/npdes/national-pretreatment-program (last visited June 25, 2022).
[11] *See PFAS Strategic Roadmap: EPA's Commitment to Action 2021-2024, (2021)* at 14.
[12] *See* CWA § 405(d)(2).
[13] *PFAS Strategic Roadmap: EPA's Commitment to Action 2021-2024, (2021)* at 26.
[14] First enacted in February 1993, the Part 503 regulations have been regularly updated and strengthened. Key dates include 1994, 1995, 1999, 2004, 2007, and 2015.
[15] *See* CWA § 405(d). Under Section 405(d)(1) EPA establishes numeric limits and management practices to protect public health and environment from anticipated adverse effects of chemical and microbial pollutants during use or disposal of sewage.
[16] 40 C.F.R. § 503.43.
[17] 40 C.F.R. Part 60 Subparts MMMM and LLLL.
[18] 40 C.F.R. § 503.23.
[19] 40 C.F.R. § 503.24; 40 C.F.R. § 258.26.
[20] 40 C.F.R. § 503.25; 40 C.F.R. §§ 258.22(a), (b).
[21] 40 C.F.R. §§ 503.26, 503.27; 40 C.F.R. § 258.29.
[22] *See, e.g.,* 40 C.F.R. § 503.24(l), (o)(1); 40 C.F.R. § 258.12(a)(2)(iii); 40 C.F.R. § 258.12(a).
[23] K. Kumar, L. Hundal, R. Bastian, B. Davis, WEF, *Land Application of Biosolids: Human Health Risk Assessment Related to Microconstituents,* (2017) at 1, https://www.wef.org/globalassets/assets-wef/3---resources/topics/a-n/biosolids/technical-resources/wef-fact-sheet-microconstituents-v25-aug-2017.pdf (last visited June 27, 2022).
[24] 40 C.F.R. Part 503, Subpart B.
[25] *Id.* The categories are: Pollutant Concentration Biosolid; Cumulative Pollutant Loading Rate Biosolid; or Annual Pollutant Loading Rate Biosolid.
[26] EPA, *A Plain English Guide to the EPA Part 503 Biosolids Rule*, (1994) at 35, https://www.epa.gov/sites/default/files/2018-12/documents/plain-english-guide-part503-biosolids-rule.pdf (last visited June 27, 2022). *See* 40 C.F.R. § 503.12(f)–(h) (enumerating requirements for notice and provision of necessary information when giving prepared biosolids away for land application); 40 C.F.R. § 503.14(e) (listing the kind of information that should be included in the required label).
[27] 40 C.F.R. §503.32(b)(1)(ii) (iterating general requirement for meeting Class B site restrictions, 40 C.F.R. § 503.32(b)(5) (enumerating the different types of Class B site restrictions).
[28] 40 C.F.R. § 503.14 (enumerating the different management practices that may be required).
[29] *See* 40 C.F.R. § 503.14(a)–(d).
[30] 40 C.F.R. § 503.16(a).
[31] S. Brown et al., *Municipal Biosolids: A Resource for Sustainable Communities*, 14 CURRENT OPINION IN ENV'T SCI. & HEALTH 56, 56–57 (2020); see also M. Badzmierowski and G. Evanylo, *Nutrient Content, Value, and Management of Biosolids,* (2018) at 1, https://www.virginiabiosolids.com/wp-content/uploads/2018/10/VBC_NutrientContent.pdf (last visited June 27, 2022).
[32] Brown et al. at 56-57.
[33] *Id.*
[34] J. Thompson & R. Watson, *Time is Running Out: The U.S. Landfill Capacity Crisis*, Solid Waste Env't Excellence Protocol, https://sweepstandard.org/time-is-running-out-the-u-s-landfill-capacity-crisis/ (last visited June 3, 2022).
[35] K. Musulin, *U.S. Landfill Capacity to Drop 15% Over Next 5 Years*, Waste Dive, (May 8, 2018), https://www.wastedive.com/news/us-landfill-capacity-decrease-SWEEP/523027/ (last visited June 25, 2022).
[36] In 2013, there were 218 SSIs in the U.S. See, e.g., https://earthjustice.org/our_work/cases/2013/cleaning-up-sewage-sludge-incinerators. The North East Biosolids & Residuals Association cites 204 SSIs. https://www.nebiosolids.org/incineration-thermal-conversion#:~:text=%E2%80%9CEPA%20estimates%20that%20there%20are,operating%20in%20the%20United%20States (last visited June 27, 2022).

[37] 38 M.R.S. § 1306 enacted by P.L. 2022, c. 641.
[38] S2655, Mass. 2021-22, 192nd Gen. Ct., https://fastdemocracy.com/bill-search/ma/192nd/bills/MAB00048021/.
[39] E.A. Crunden, *For Waste Industry, PFAS Disposal Leads to Controversy, Regulation, Mounting Costs,* Society for Environmental Journalists, (November 18, 2020), https://www.sej.org/publications/features/waste-industry-pfas-disposal-leads-controversy-regulation-mounting-costs (Concord, N.H. opted to send biosolids to Canada).
[40] NACWA et al., *Cost Analysis of the Impacts on Municipal Utilities and Biosolids Management to Address PFAS Contamination,* (Oct. 2020, rev. Jan. 2021), https://www.wef.org/globalassets/assets-wef/3---resources/topics/a-n/biosolids/technical-resources/cost-analysis-of-pfas-on-biosolids---final---rev-1-2021.pdf.
[41] *Id.* at Section 3.5.
[42] Pima County Wastewater Reclamation et al., *PFAS in Biosolids A Southern Arizona Case Study, (Oct. 2020),* https://online.fliphtml5.com/vjxoz/hpqy/#p=1 (last visited June 25, 2022).
[43] ASTDR, *Per- and Polyfluoroalkyl Substances (PFAS) and Your Health,* https://www.atsdr.cdc.gov/pfas/activities/map/region5.html (last visited June 25, 2022).
[44] EPA, *Potential PFAS Destruction Technology: Pyrolysis And Gasification* in Research BRIEF (Jan. 2021) (Study determined that pyrolysis and gasification may be effective in denaturing PFAS molecules in biosolids to more inert or less recalcitrant particles without destroying the beneficial use potential of the material. EPA also found that pyrolysis and gasification reduce the volume of biosolids by up to 90%, rendering transport, use, and disposal more energy efficient and less environmentally burdensome).
[45] P. J. McNamara et al., *Pyrolysis of Dried Wastewater Biosolids Can Be Energy Positive*, 88 WATER ENV'T RSCH. 804 (2016).
[46] Fla. Dep't of Env't Prot., *Per- and Polyfluoroalkyl Substances (PFAS) Dynamic Plan*, 18, 19 (2021), https://floridadep.gov/sites/default/files/Draft_Dynamic_Plan_Aug2021_0.pdf.
[47] Mich. Dep't of Env't, Great Lakes, & Energy, *Land Application of Biosolids Containing PFAS, (Apr. 2022),* https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/WRD/Biosolids/PFAS-Biosolids-Interim-Strategy-2022.pdf?rev=ef886f1fb9e047ab8c73f15c2c7d8c35&hash=413D0AE6CDE73708B40B2D7E351CAA49 (last visited June 27, 2022).
[48] Mich. PFAS Action Response Team, *Landowners/Farmers and Biosolids*, https://www.michigan.gov/pfasresponse/Workgroups/land-application/landowners-farmers\ (last visited May 24, 2022).
[49] Mich. Dep't of Env't, Great Lakes, & Energy, *Evaluation of PFAS in Influent, Effluent, and Residuals of Wastewater Treatment Plants (WWTPs) in Michigan,* (Apr. 2021).
[50] Mich. Dep't of Env't, Great Lakes, & Energy, *Summary Report: Initiatives to Evaluate the Presence of PFAS in Municipal Wastewater and Associated Residuals (Sludge/Biosolids) in Michigan*, (June 2020), https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/IPP/pfas-initiatives-wastewater-sludge.pdf?rev=2f47b34f32804b349dcf219fec460ec5 (last visited June 27, 2022).
[51] *Id.*
[52] Minn. Pollution Control Agency, *What Is Minnesota Doing About PFAS?*, https://www.pca.state.mn.us/waste/what-minnesota-doing-about-pfas (last visited May 24, 2022).
[53] *See* Minn. Pollution Control Agency, *Minnesota's PFAS Blueprint,* (Feb. 2021), https://www.pca.state.mn.us/sites/default/files/p-gen1-22.pdf (last visited June 27, 2022).
[54] Minn.'s Legacy, *Developing Strategies to Manage PFAS in Land-Applied Biosolids*, https://www.legacy.mn.gov/projects/developing-strategies-manage-pfas-land-applied-biosolids (last visited June 3, 2022).
[55] N.C. Dep't of Justice , *Attorney General Josh Stein Announces More than $950,000 in Environmental Grants for the Triangle Region*, (Oct. 27, 2020), https://ncdoj.gov/attorney-general-josh-stein-announces-more-than-950000-in-environmental-grants-for-the-triangle-region/.
[56] H.B. 1108, N.C. 2019–20 Legislature § 3(a).
[57] S. 361, Wis. 2021–22 Legislature § 1.

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[58] Wis. Dep't of Nat. Res, *PFAS & Biosolids*, (Mar. 9, 2021), https://www.wwoa.org/images/pdf/presentations/Spring_Biosolids_Symposium/PFAS_DNR_Perspective_Strickland.pdf (last visited June 25, 2022).
[59] 12-036-003 Vt. Code R. § 6-1306.
[60] *Id.*
[61] H.650, Vt. Legislature (2022).
[62] H.710, Vt. Legislature (2022).

EXHIBIT B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

JAMES FARMER, ROBIN ALESSI, PATSY SCHULTZ, KAREN COLEMAN, TONY COLEMAN, JOHNSON COUNTY, TEXAS, MAINE ORGANIC FARMERS AND GARDENERS ASSOCIATION, and POTOMAC RIVERKEEPER, INC., d/b/a POTOMAC RIVERKEEPER NETWORK

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, and MICHAEL REGAN, in his official capacity as Administrator of the United States,

Defendants

and

NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES

Proposed Intervenor-Defendant.

Civil Action No. 24-cv-01654-DLF

Hon. Dabney L. Friedrich

DECLARATION OF ADAM KRANTZ IN SUPPORT OF PROPOSED INTERVENOR DEFENDANT NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES' MOTION TO INTERVENE

I, Adam Krantz, hereby declare and state as follows:

1. I am the Chief Executive Officer of the National Association of Clean Water Agencies ("NACWA") and have held this position since 2015. I offer this declaration in support of NACWA's motion to intervene as a defendant in the above-captioned matter.

This declaration is based on my personal knowledge and on information made known to me in my role and responsibilities at NACWA.

2. Prior to my current position, I worked for 17 years in the clean water sector in various other capacities. At no time during my 25 years working with public clean water utilities has the sector been facing such significant challenges.

3. I have a B.A. from Columbia University and a Master of Arts from the University of Chicago.

4. I received my law degree from the American University's Washington College of Law.

5. NACWA is a voluntary, non-profit national trade association headquartered in Washington, D.C. NACWA's members include over 350 public water agencies that provide wastewater services and stormwater management to cities, towns, and communities throughout the United States. In the aggregate, NACWA's members provide services to a large majority of America's population served by sewers.

6. In my role as CEO of NACWA, I am familiar with the operations of publicly owned treatment works (POTWs), including the management and regulation of the byproducts produced when liquids are separated from solids during the wastewater treatment process, commonly referred to as "biosolids." Biosolids management constitutes a large part of the operations and costs of POTWs. I have devoted significant time to biosolids issues throughout my career at NACWA.

7. Wastewater utilities generate thousands of tons of biosolids every day as a necessary function of the nation's wastewater treatment processes. This huge volume of material must be moved and managed offsite.

8. NACWA members that manage biosolids have three options for disposal under the Clean Water Act—incineration, land application, and landfilling.

9. Land application is considered a beneficial use and biosolids that meet detailed EPA criteria under 40 C.F.R. Pt. 503 for treatment and management may be applied to agricultural sites that grow food and feed crops and pastureland. Biosolids that achieve the highest pathogen reduction and low levels of pollutants under Part 503 are bagged and sold or distributed as a fertilizer for home lawns and gardens. Biosolids are also a prime feedstock for compost products that are used as farm fertilizer and soil amendment.

10. It is estimated that more than half of U.S.-generated biosolids are beneficially land applied. The remaining biosolids are either disposed of in landfills, as either monofill governed under Part 503 or, predominantly, in municipal solid waste landfills, and or incinerated in sewage sludge incinerators, also governed under Part 503. Co-disposal with municipal solid waste and incineration are both additionally regulated by 40 C.F.R. Part 258 and Section 129 of the Clean Air Act, respectively.

11. Land application of biosolids has occurred on a large scale nationwide since the advent of modern wastewater treatment in the 1960s and 1970s. The safety and benefits of land application have been validated through thousands of published studies, including two reviews by the National Academy of Sciences.

12. NACWA members do not use or manufacture per- and polyfluoroalkyl substances (PFAS). Rather, they receive PFAS that has entered the wastewater collection system (sewers) from industrial, commercial, and household sources.

13. Currently, NACWA members' facilities have no viable treatment options for PFAS at the scale needed for the volume of water treated at POTWs. PFAS in wastewater

typically is found in the low parts per trillion level, and POTWs often treat over 100 million gallons of wastewater a day, making PFAS removal a daunting engineering, scientific, and logistical challenge. PFAS can therefore remain in biosolids even after going through wastewater treatment systems.

14. NACWA has been proactive in the national discussion of PFAS in wastewater and continuously surveys its members in order to provide a holistic voice on the matter.

15. NACWA participates in the stakeholder processes that inform EPA's regulations, which includes attending meetings and workshops and providing both informal and formal comments to EPA for consideration.

16. Were land application to be removed as a biosolids management option, clean water agencies could be forced to landfill biosolids. However, landfill capacity and availability are limited and expensive, particularly in more urban areas of the country. Landfills also face unique management issues with biosolids and often limit biosolids intake or prohibit biosolids as states work to divert organic materials from landfills to recycling practices, like land application. A land application ban could therefore trigger the increased transportation of heavy solids at great cost—which also creates additional nuisance and air quality concerns in communities that did not produce the biosolids.

17. Reliance on landfill disposal also jeopardizes landfill stability as increased disposal generates increased leachate—which in turn must be treated at a wastewater treatment facility—and requires updated landfill management practices.

18. The State of Maine passed legislation banning the land application of municipal biosolids in April 2022. As a result, biosolids must be transported great distances, primarily to Canada.

19. In Pima County, Arizona, a land application moratorium that lasted less than a year resulted in doubled biosolids management costs.

20. Similarly, if incineration—a disposal method that faces its own limitations concerning environmental and economic factors—is banned, facilities face the expensive and sometimes infeasible options to either build biosolids treatment equipment or locate nearby land for land application, the availability of which is not guaranteed.

21. EPA's decisions concerning the need to regulate PFAS in biosolids and if so to what extent will significantly impact NACWA members' interests. Specifically, members may lose or be forced to amend their existing contracts for disposal and biosolids infrastructure—both of which could result in significant financial hardship. Worse still, NACWA members could face a public health and environmental crisis if they are left with no feasible alternatives for managing this unavoidable byproduct of our modern sanitation process.

22. Combined, the cost, lack of treatment technology, and limited disposal methods could result in an abundance of biosolids with no means of disposal, which will harm both NACWA members, the communities they serve, and American public health and infrastructure generally.

23. NACWA continuously surveys and listens to its members regarding looming PFAS issues and concerns and is uniquely situated to represent the view-points of the public wastewater sector as well as their many contractors and farm partners. Additionally, NACWA and its members may disagree with the methods, evidence, or standards implemented and utilized by EPA in its rulemaking process.

24. NACWA acknowledges that the management of PFAS poses a challenge in protecting public and environmental health, however state and local bans have illustrated the consequences of regulating PFAS and biosolids management practices without proper scientific, technical, and financial analysis and study. As such, NACWA has a vital interest in ensuring that EPA is provided the opportunity to identify and fully evaluate PFAS on its own schedule.

I declare under the penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge and belief.

Dated: September 23, 2024

Respectfully submitted,

Adam Krantz