American Water Works Association

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November 7, 2022

Barry Breen
Acting Assistant Administrator
Office of Land and Emergency Management
Environmental Protection Agency
1200 Pennsylvania Avenue, N. W.
Mail Code: 28221T
Washington, DC 20460
**SUBMITTED ELECTRONICALLY**

RE: Comments on Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances (Docket ID No: EPA-HQ-OLEM-2019-0341)

Dear Mr. Breen,

The American Water Works Association (AWWA) appreciates the opportunity to comment on the Environmental Protection Agency (EPA or the Agency) rulemaking titled "Proposed Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA [Comprehensive Environmental Response, Compensation, and Liability Act] Hazardous Substances" (the Proposal). Our members strive to protect public health through unfailing operation of drinking water systems and domestic and municipal sewage treatment, AWWA therefore has an active interest in effective and lawful leveraging of the EPA's authorities to address the challenges arising from per- and polyfluoroalkyl substances (PFAS).

AWWA is concerned that the Proposal imposes significant costs and long-term liability on drinking water and domestic sewage treatment facilities (herein referred to collectively as water systems) and threatens to compound financial burdens on water systems that are, or under a forthcoming rule will be, protecting public health through drinking water treatment of PFOA and PFOS. These burdens will be directly felt by the water systems' ratepaying customers and felt most acutely by those living in environmental justice communities.

While the Proposal does not list drinking water systems as "potentially affected entities" this Proposal could impose liability on the nearly 144,000 drinking water systems in addition to 19,000 domestic wastewater treatment systems across the United States, given the widespread presence of PFOA and PFOS in the environment (EPA, 2022a; EPA, 2022b). This liability will cause waste management costs for water systems to increase, which may have upwards of a $1.5 billion annual impact (Hazen & Sawyer, 2022). Those costs will have a direct impact on our members and their customers.

The Agency, in press releases and public outreach meetings, has signaled an interest in working to address equity concerns for water systems and other similarly innocent parties financed through ratepayers and taxpayers as it addresses PFAS-related concerns (EPA, 2022c; EPA, 2022d). As a key stakeholder representing members working on the frontlines of these pressing issues, AWWA appreciates the Agency shares these concerns. AWWA writes to explain why the Proposal will negatively impact water systems in a way that is not consistent with the Proposal's objectives or the EPA's stated concerns. AWWA has prepared the following comments and is attaching a legal

appendix, prepared by Earth and Water Law, on the Proposal to ensure any EPA action is crafted in a manner congruent with the objectives of the Agency's statutory authorities and responsibilities. We are concerned that the Proposal is legally vulnerable as it misinterprets CERCLA and risks violating the requirements of the Unfunded Mandates Reform Act (UMRA), Regulatory Flexibility Act (RFA), Presidential Executive Orders (E.O.s) and corresponding White House Office of Management and Budget (OMB) guidance, and the Administrative Procedures Act (APA). In particular:

1. The EPA was incorrect in concluding that CERCLA precludes the Agency from taking costs into account.
2. The EPA wrongly determined that legal requirements of UMRA (Congress, 1995) do not apply to the Proposal. The Agency wrongly determined that local governments are not significantly impacted as there are more than 36,000 government owned, small water systems that may be impacted.
3. Likewise the Agency incorrectly concluded that the legal requirements of RFA (Congress, 1980) do not apply to this Proposal as more than 142,000 small water systems may be impacted and the Proposal therefore has a significant impact on small entities.
4. The EPA disregarded the requirements in E.O. 12866 (Clinton, 1993) and the corresponding OMB Circular A-4 (OMB, 2003) that it should consider costs, benefits, and regulatory alternatives when proposing and promulgating economically significant rulemakings.
5. The Agency arbitrarily characterizes "better waste management" as a benefit but not a cost of the Proposal.

a. The Agency's inconsistent and incoherent framing of the Proposal's regulatory purpose obfuscates public stakeholders' ability to review the Proposal and provide feedback and deprives the public of a meaningful opportunity to comment on the Proposal, as required by APA (Congress, 1946). The Agency has failed to provide a reasonable explanation for its decision.

6. The Economic Assessment for the Proposal relies on a unsupported finding that costs of the rules, particularly those for water systems, are uncertain and indeterminant. This finding fails to recognize publicly available materials on waste management costs for waste materials that are necessary to characterize impacts under UMRA and RFA, and to understand the rule's overall impact on nearly 145,000 drinking water systems and 14,000 domestic sewage treatment systems that are potentially impacted by this rule (EPA, 2022a; EPA, 2022b).
7. The Agency's qualitative assessment of determining that PFOA and PFOS fulfill the statutory requirements to be designated as hazardous substances falls short of providing meaningful insight into the regulatory need for this action and the actual scope of benefits anticipated. The Agency fails to provide a comprehensive, quantitative analysis of this information to clearly demonstrate that there is a substantial danger that is posed to public health ***and*** that it can be addressed by the Proposal.
8. The Agency's environmental justice assessment required by E.O. 12898 (Clinton, 1994) does not consider disproportionate and adverse impacts on minority, low-income populations and/or indigenous peoples associated with the Proposal, which will increase the use of hazardous waste facilities and compound existing drinking water service affordability challenges.
9. The EPA's planned reliance on enforcement discretion is not a sufficient shield for taxpayer and ratepayer entities and will not protect water systems from liability and will quickly overburden EPA staff and potentially delay cleanups.
10. The Agency cites benefits of the action that can be accomplished more directly and effectively and using other, existing statutory authorities. Two such alternatives are already in rulemaking motion under the Toxic Substances Control Act (TSCA) and the Emergency Planning and Community Right-to-Know Act (EPCRA) (EPA 2021a; EPA, 2021b; OIRA, 2022a). Other actions have yet to be proposed but have been described by the agency to be in motion including waste management action under the Resource Conservation and Recovery Act (RCRA) and the Clean Water Act (CWA) (EPA, 2021c; EPA 2021d).

Unless the EPA corrects these issues before promulgating any final rule, these legal shortcomings could lead courts to setting aside the rule under APA as "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law", and promulgated "without observance of procedure required by law" (Congress, 1946). More broadly,

we found so many flaws in EPA's analysis and places where EPA failed to make use of its own internal data or publicly available information that we are concerned that the EPA has not properly consulted with its own subject matter experts and outside stakeholders to understand the implications that the Proposal would have on water systems and other impacted systems and will therefore not be entitled to deference from the courts.

In addition, this Proposal marks the first time in history that a hazardous substance designation under CERCLA is being made directly, EPA's Proposal fails to chart a defensible, clear, and reasoned regulatory precedent for using this authority in the future. This is apparent in the Proposal's failure to both (i) objectively define when a substance is hazardous under CERCLA (and to apply this framework to PFOA and PFOS) and (ii) clearly communicate the direct and indirect impacts (costs, benefits, environmental justice issues) of the designation.

Finally, AWWA is concerned that the EPA has not fostered a clear and transparent dialogue regarding how this regulatory authority will be used. The Agency has neglected to meaningfully engage stakeholders like states, small entities, and other impacted groups. EPA has also declined to extend the public comment deadline, despite a variety of key stakeholders requesting an extension. These concerns are further detailed in the attached comments.

If you have any questions regarding this correspondence or if AWWA can be of assistance in some other way, please contact me or Chris Moody at (202) 326-6127 or cmoody@awwa.org.

Best regards,

G. Tracy Mehan, III
Executive Director – Government Affairs

cc: Michelle Schutz, EPA / OLEM
Michal Freedhoff, EPA / OCSPP
Radhika Fox, EPA / OW

Attachments

1. AWWA Comments on Proposed Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances

*Who is AWWA*

*The American Water Works Association is an international, nonprofit, scientific and educational society dedicated to providing total water solutions assuring the effective management of water. Founded in 1881, the Association is the largest organization of water supply professionals in the world. Our membership includes more than 4,500 utilities that supply roughly 80 percent of the nation's drinking water and treat almost half of the nation's wastewater. Our 50,000-plus total membership represents the full spectrum of the water community: public water and wastewater systems, environmental advocates, scientists, academicians, and others who hold a genuine interest in water, our most important resource. AWWA unites the diverse water community to advance public health, safety, the economy, and the environment.*

**AWWA Comments on Proposed Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances**

Docket ID No: EPA-HQ-OLEM-2019-0341

*Prepared by the:*
*American Water Works Association*

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The American Water Works Association (AWWA) appreciates the opportunity to comment on the Environmental Protection Agency's (EPA or the Agency) "Proposed Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA [Comprehensive Environmental Response, Compensation, and Liability Act] Hazardous Substances" (the Proposal). AWWA has prepared the following comments to assist EPA in moving forward with final action that is both legally defensible and crafted in a manner congruent with the objectives of EPA's statutory authorities.

## 1. Impacts on Water Systems

Drinking water treatment systems and domestic sewage treatment systems (herein referred to as water systems) are expected to be impacted by this rule. These systems include both small and large systems. Additionally, many of these systems are operated by small governments. The impact on water systems will be vast, potentially changing how nearly all are operated and their financial longevity. The Proposal's Economic Assessment notes that the Agency "did not analyze impacts on small municipal drinking water utilities because these entities were not identified as potential sources of major PFOA or PFOS releases". This statement grossly mischaracterizes the scope of CERCLA liability and fails to recognize the Agency's own intention to drive forward better waste management. It is disappointing that despite active engagement from the water sector with the EPA on this issue, the Agency has moved forward with a Proposal that neglects the impacts on a critical infrastructure sector despite AWWA's clearly stated interest in the rulemaking effort and the available data on this issue (Mehan, 2021a; Mehan, 2021b; Mehan, 2021c; AWWA, 2022a; AWWA, 2022b). Each of these impacts are discussed in further detail below.

### Number of Systems Potentially Impacted

According to the most recent data from the EPA's Safe Drinking Water Information System, there are nearly 144,000 individual drinking water treatment systems across the U.S. that are responsible for providing safe drinking water to the public (EPA, 2022a). **Of these drinking water treatment systems, 99.3% of these systems are categorized as small systems – meaning they serve less than 50,000 people.** Furthermore, 25.2% of these systems are categorized as both small systems and local, state, or tribal governments (STLGs). A breakdown of drinking water treatment systems is provided in Table 1. These figures do not include the nearly 19,000 additional domestic sewage treatment systems responsible for the wastewater and stormwater management in the U.S. through (EPA, 2022b).

Table 1: Number of Drinking Water Systems Subject to CERCLA Liability

| Types of Systems | Number of Drinking Water Treatment Systems |
|---|---|
| **All Systems** | 143,583 |
| **Small Systems serving < 50,000 people** | 142,542 |
| **State, Local, and Tribal Govt. Owned** | 37,138 |
| **Local Govt. Owned, Small Systems** | 36,232 |

While the EPA has claimed that adverse impacts to water systems will be avoided with enforcement discretion and guidance by the Agency. Following a briefing by the EPA, where enforcement discretion was highlighted as a tool commonly used by the Agency, AWWA requested additional information on examples of such discretion being used. Unfortunately, the Agency did not address this request in the Questions and Answers document released by the EPA on November 1, 2022 (AWWA, 2022c; EPA, 2022e).

Without information from the EPA on specific approaches to enforcement discretion, the public can only consider EPA historical performance in protecting water systems.

A review of historical CERCLA sites has demonstrated that this is not a shield of protection. Nearly 650 entities, similar to and including water systems, have been sued as potentially responsible parties (PRPs) under CERCLA (Salzman, 2019). One such case includes a domestic sewage treatment facility that was found liable under CERCLA for a hazardous substance that was present in the wastewater collection system and released to the environment through leaky pipes (US District Court for Maryland, 1993).

Even if the EPA were to assume that only a fraction of water systems would be implicated with CERCLA liability due to the low levels of PFAS in their drinking water sources, the number of systems is still staggering considering the occurrence of PFOA and PFOS, at low levels, as determined by the EPA. A recent publication by the EPA staff in the AWWA Water Science Journal, estimates that the drinking water of nearly 50 million Americans potentially has PFOA or PFOS at detectable levels (Cadwallader, 2022). This is approximately one-sixth of the population of the U.S. and, using available national and state monitoring data for PFOA and PFOS corresponds to approximately 7,278 community water systems of 49,452 community water systems nationwide, or 14.7% of systems (Corona, 2022; Black & Veatch, 2022). Assuming this pattern is agnostic to the type of water system, a total of 21,107 drinking water treatment systems are could potentially have observable levels of PFOA and PFOS. As detection limits decrease with analytical method improvements, this number could increase (Eurofins, 2022). Furthermore, given the ubiquitous use of PFAS in household and commercial applications, research has shown that PFOA and PFOS have been found in more than 99% of wastewater systems, impacting virtually all wastewater treatment facilities (Thompson, 2021).

**While the exact number of systems may be uncertain, it is obvious that the number of water systems that stand to be impacted by this designation is numbered in the tens of thousands, ranging from 40,000 to 162,000 systems. A majority of these systems are local governments and/or small systems serving less than 50,000 people.**

## Long-Term Threat of Liability

Water systems produce significant quantities of both solid, liquid, and gaseous waste residuals. Water systems with PFAS in their influent are likely to produce residuals with PFAS that may be subject to the CERCLA liability. For example, water systems may produce any or a combination of the following the waste products listed in Table 2.

Table 2: Typical Waste Streams Generated at Water Treatment Systems

| Liquid Wastes | Solid Wastes | Air Releases |
|---|---|---|
| Well Blowdown | Spent Conventional Filter Media | Anaerobic Digestion Biogas |
| Media Filter Backwash | Adsorptive media for PFAS | Sewer Collection Gas |
| Anaerobic Digestate | Spent Membrane Filters | |
| Sludge Processing Retentate | Spent Cartridge Filters | |
| Membrane Concentrate | Grit | |
| Membrane Backwash | Biosolids | |
| Waste Brine from Ion Exchange Regeneration | Coagulation/Flocculation Sedimentation Sludge | |
| | Lime Softening Sludge | |

Under the Proposal, each of these waste streams is at risk of being the target for future lawsuits and subsequent cleanup liability, regardless of the relative contribution of PFOA and PFOS to the site. While most of these waste streams are unlikely to be subject to the reporting requirements, potentially responsible parties (PRPs) brought into CERCLA litigation by the EPA could target water systems for these waste streams regardless of the levels of PFOA and PFOS present. Even with enforcement discretion framed up in the proposal by the EPA, examples of water systems and municipalities historically being sued by PRPs has demonstrated that water systems may expend significant funds in litigation costs and that the EPA is incapable of shielding these systems. These legal fees, and the threat of liability will consume a considerable level of ratepayer and taxpayer funding that should otherwise be directed to infrastructure investment. This liability will threaten the long-term stability and financial capacity of water systems that provide critical infrastructure services for the public and the national economy.

## Shifting the Landscape of Water Treatment Residual Management

As acknowledged by the Proposal, the rule is expected to lead to "better waste management and/or treatment by facilities handling PFOA or PFOS." The creation of liability for PFAS-containing wastes will drive changes in not only how these wastes will be managed but whether certain waste management approaches are available and the availability of recycled waste materials for treatment. AWWA members have begun reporting that the proposed designation of PFOA and PFOS as hazardous substances is already having impacts on typical operations. The Proposal neglects to quantify these impacts, despite data being widely available.

A survey of unit costs for residuals management by Hazen and Sawyer was recently conducted and found that the costs of hazardous waste disposal was 10 to 50 times more expensive compared to land application disposal of biosolids (Hazen & Sawyer, 2022). In fact, EPA's Interim Guidance on Disposal of PFAS Wastes estimated that incineration of liquid sludges, like those generated by water treatment plants may cost upwards of $1,700 per ton (EPA, 2020). Another report released in October 2020 provides an analysis of various case studies where policy and regulation of PFAS in biosolids drove changes in management and disposal (CDM Smith, 2020). Hazen & Sawyer estimates that the economic impact of a CERCLA designation causing a shift in waste management from typical practice at present to hazardous waste incineration is more than $3.5 billion (Hazen & Sawyer, 2022).

The analysis notes a marked increase of 80 to 230% in biosolid management costs. As noted in the study, biosolids management costs typically represents 8-17% of total operating costs, which when increased this dramatically will have significant impacts on water rates.

The EPA estimates that more than 4.5 million dry metric tons of wastewater biosolids are produced on an annual basis, more than 40% of which are land applied (EPA, 2022f). According to the Water Environment Federation (WEF), the average person generates about 37 pounds of biosolids annually, collectively 5.8 million dry tons each year (WEF, 2022; NBDP, 2022a). It is also estimates that 2.3 million dry tons of biosolids are used by agriculture; in fact, 29 states used more than half of their biosolids for beneficial use (NBDP, 2022a; NBDP, 2022b). On the drinking water side, residuals are generated by various types of drinking water processes such as conventional treatment (coagulation, flocculation, and sedimentation) as well as other processes like lime softening. Research has shown that PFAS can be removed, albeit ineffectively, by these processes (Xiao, 2012; Belkouteb, 2020; Zhang, 2021; Cornelson, 2021). The potential for PFAS to be present in conventional treatment residuals increases with the use of powder activated carbon prior to sedimentation. There are some vendors that are also working to develop coagulants that aid in the removal of PFAS, such as PerfluorAd (TRS Group, 2020). Given that CERCLA

liability is strict, even minimal levels of PFAS present in these residual streams will cause changes in waste management by drinking water systems.

Hazen & Sawyer recently conducted an estimation of drinking water treatment residuals that could potentially be susceptible to CERCLA liability if PFOA and PFOS were present in the source. The study relied on data from an AWWA Study in 2008 on residuals which was later used to support EPA cost estimations for residual management systems (Roth, 2008; EPA, 2011). To prepare this estimation, Hazen & Sawyer utilized data collected by the EPA under the Fourth Unregulated Contaminant Monitoring to determine the number of systems using either conventional treatment (coagulation/flocculation and sedimentation) or lime softening treatment processes Rule (EPA, 2022g). With more than estimated 7,300 community water systems using conventional treatment and lime softening, there is a significant quantity of solid residuals as part of typical operating practices. According to this estimation, more than 1.3 million dry tons of conventional sludge is generated annually and more than 0.85 million dry tons of lime softening sludge is generated annually by these systems (Hazen & Sawyer, 2022).

Additionally, in parallel with the proposed designation of PFOA and PFOS the Agency is preparing to propose a national primary drinking water regulation (NPDWR) for PFOA and PFOS. This rule is expected to lead to the generation of at least 275,000 tons of spent adsorption media annually in response to the new regulations (Black & Veatch, 2022). While a typical practice is to thermally reactivate GAC for drinking water treatment so that the spent media can reused, this practice is not expected to be a viable option if PFOA and PFOS are designated as hazardous substances. For example, one such drinking water treatment system has already seen impacts of the Proposal in a recent contract for granular activated carbon (GAC) supply and management (CFPUA, 2022). Specifically, the contract notes:

> "*Should regulatory changes, including but not limited to changes to ..CERCLA…classify certain or all PFAS compounds as a hazardous compound…CONTRACTOR may be restricted from reactivating spent GAC at its potable reactivation sites…hazardous spent GAC will be processed at an approved industrial reactivation facility…Reclassification may result in amendment to this Contract for changes in processing and handing, pricing of the spent return freight, waste handling, and any additional cost incurred for hazardous material transportation, handling, and processing. In addition, the Contract may be further amended to remove custom reactivated carbon as an option and/or apply virgin contract pricing."*

Not only will this lead to more expensive disposal options for GAC and IX media, but this also would also require systems to purchase virgin GAC at a higher unit cost than regenerated GAC. These costs will be on top of the already stressed supply chain for GAC, which is currently seeing lead times for order fulfillment of 6-12 months for existing customers and over a year for new customers.

The increased cost of managing these wastes through improved means would be a substantial burden on drinking water treatment systems, ratepayers & taxpayers, and the economy overall. Additionally, shifting the waste management landscape for more than 7 million dry tons of water facility sludge, biosolids, and spent PFAS treatment media may create significant strain on the hazardous waste management facility capacity. According to a recent letter to the EPA from state waste officials raised concerns about hazardous waste disposal capacity, citing a recent capacity assessment that showed available annual capacity of 1.4 million tons through 2044 (EPA, 2019). Available capacity represents a mere 20% of potential waste generation by water systems. This increased demand on hazardous waste

incinerator capacity will not only drive disposal costs up but could also limit some water systems from preventing liabilities in the future by using better waste management.

## 2. Environmental Justice Concerns

In accordance with E.O. 12898, the Agency is required to assess federal actions and evaluate their potential to adversely and/or disproportionately effect minority, indigenous, and/or low-income populations (Clinton, 1994). According to the Proposal, the Agency was unable to make such a determination. However, the Agency's evaluation of such impacts only characterizes the designation's impacts as helping to collect "more information about the location and extent of releases". While this is an expected impact of the Proposal, it neglects to consider the other impacts of the rule as cited by the EPA including "increased liability" and "better waste management". These impacts will have real consequences for environmental justice communities and for low-income populations. In moving forward with this action, the Agency should prepare a thorough evaluation of environmental justice impacts of this regulatory action and consider the impacts of increased use of hazardous waste management facilities, potential impacts on climate change, and the impacts to water affordability on low-income families.

### Increased Reliance on Hazardous Waste Management Facilities

It has been documented that there are significant environmental justice concerns surrounding hazardous waste management facilities (Apelberg, 2005; Brender, 2011). Research has shown that 79% of municipal solid waste incinerators are located in environmental justice communities (Tishman, 2019). Proximity to hazardous waste facilities is considered a key environmental justice index as part of the EPA's EJScreen tool (EPA, 2022h). If this rule becomes final, it will – by design – drive facilities with potentially PFAS-containing wastes to take action to minimize liability in the future. This will lead to increased reliance on hazardous waste landfills and incinerators. Such an increased reliance on these facilities can be anticipated to increase local community air pollution associated with truck traffic and incineration of PFAS-wastes in environmental justice communities. A detailed assessment is needed to make sure that a trade-off is not being made between *de minimis* public health protection nationally in exchange for adverse and disproportionate public health effects in environmental justice communities already carrying the burden of these critical, yet problematic waste disposal sites.

### Climate Change Impacts from Shifted Waste Management Practices

In addition to environmental justice communities closely located to hazardous waste sites, climate change burdens may be worse for environmental justice communities and will result from the increased reliance on treatment processes that are more energy intensive. As noted above, the Proposal will drive additional conventional wastes to be managed through hazardous waste facilities, particularly incinerators. Incineration of these materials affords a greater degree of protection from the destruction of PFAS but generates greenhouse gases from waste that may typically be used for beneficial reuse as a soil amendment, fertilizer, or other products. Additionally, water systems will likely be forced to rely on virgin carbon for each carbon change-out event instead of regenerated carbon. Virgin carbon has a higher carbon footprint than reactivated carbon. Water systems will also need to consider how to manage liquid residuals typically not requiring energy intensive treatment prior to release to the environment. These residual streams include sludge dewatering retentate, filter backwash, well blowdown, IX regeneration brine, membrane brine, and treated wastewater and/or stormwater effluent. This rule could potentially lead these systems to install GAC and IX filtration systems to capture any PFAS that may be present,

further increasing the energy and carbon footprint of the facility due to not only the installation of additional treatment but also the management of these residuals as described herein.

### Compounded Impacts on Affordability for Low-Income Populations

The Proposal will impact water facility residual stream management including the installation of additional treatment, more intensive processing, and ultimately disposal practices less likely to be subject to liability. Water systems subject to third-party claims under CERCLA will also need to either accept an unfair, inequitable level of responsibility and cover costs of clean-up or defend themselves through assistance from legal and technical experts. These costs can amount to millions of dollars per case.

**This will force water systems to increase water and sewer rates at a time when water affordability is still a primary concern in the U.S. Increasing water and sewer rates forces low-income families to decide between drinking water and other essential services, including food, electricity, phone access, and health care.**

A rate survey from 2018 found that water and sewer rates increased by 7.2% and 7.5%, respectively from 2016 to 2018 in comparison to an increase of the Consumer Price Index of 4.6% during the same period (AWWA, 2019). This increase also does not reflect other factors that will have contributed to stressed financial situations for water systems and are not yet reflected such as (i) record inflation, (ii) Build America, Buy America, (iii) forthcoming requirements set forth by the Lead and Copper Rule Revisions, and (iv) forthcoming regulations for PFOA and PFOS in drinking water. It is estimated that the national burden of drinking water treatment for PFOA and PFOS is upwards of $50 billion over the next two decades (Black & Veatch, 2022). Each of these is expected to drive water rates up even higher and these rate increases will be felt the most by low-income populations. This impact is made worse by the fact that increased water rates from PFOA and PFOS will be felt twice by the ratepayers.

## 3. Economic Impact on Small Entities

The Proposal states that the requirements of the RFA are not applicable since the action does not have a significant economic impact on a substantial number of small entities (e.g., water systems serving less than 50,000 people). This is inaccurate and relies on the flawed assumption by the EPA that only producers and users of PFAS and PFAS-containing articles and waste management facilities would be impacted in spite of also acknowledging that there are significant equity concerns for water systems and other entities. More than 99% of all water systems, about 142,000 systems, are small entities (EPA, 2022a).

The Proposal places economic burdens onto these systems associated with legal defense fees, increased costs for waste management activities of water treatment residuals (either from increased unit costs or changes in disposal strategy), and changes in GAC regeneration options. These systems produce an annual quantity of 620 million dry tons of conventional coagulation and lime softening solids, 110,000 tons of advanced PFAS treatment solids, and other waste streams that will need to either continue being disposed of through existing channels or through improved channels in response to CERCLA liability (Hazen & Sawyer, 2022; Black & Veatch, 2022). This is on top of the expectation that changes in the liability framework for PFAS, as water systems across the U.S. are preparing to carry the burden of drinking water treatment of PFAS using GAC or IX materials, will lead to increases in drinking water treatment costs associated with purchasing virgin GAC. Waste management costs can easily exceed 15% of the total operating costs for water systems (CDM Smith, 2020). Increases in these operational costs will stand to have a significant impact that the EPA has a responsibility to consider.

Additionally, according to the Economic Assessment, the estimated breakeven costs for Sewage Treatment Facilities is $12,786 and meets the one percent revenue threshold. According to WEF, the average person produces 37 lbs of biosolids per year (WEF, 2022). For a sewage treatment system serving 50,000 persons, this would amount to 925 tons of *dry* (not unprocessed) biosolids generated annually. Assuming the raw, unprocessed biosolids are 20% solids by weight, this amounts to nearly 4,625 tons of biosolid generation annually. Assessing the breakeven costs from the Economic Assessment against this generation rate, the breakeven cost per ton is only $2.76/ton. Additionally, typical waste disposal costs for water systems may be approximately 15% of the overall operating costs of the system. For the breakeven cost to exceed 1% or 3% of the system's revenues, waste management costs only need to increase 6% to 20%. Section 1 has demonstrated that these costs are likely increase more dramatically.

Exhibit 4-1 of the Economic Assessment should include drinking water treatment systems and reflect the associated costs not only the potential monitoring and reporting costs but also associated costs associated with managing existing and future residual streams. The Economic Assessment also does not include those borne by small entities like local fire stations and small cities engaged with participating in regional waste management facilities.

## 4. Economic Impact on Small Governments

The Proposal states that the requirements of UMRA are not applicable since the action does contain an unfunded mandate of $100 million or more as described in UMRA nor does it significantly or uniquely affect small (state, local, and tribal) government. This is inaccurate and rests on the flawed and incomplete economic assessment. Following a review by the White House OMB, the rule was labeled as Economically Significant meaning it does exceed $100 million in regulatory impact (OIRA, 2022b). As discussed in Section 1, the impacts to water systems are significant and widespread with potentially impacted systems approaching 143,000 water systems across the U.S., 36,000 of which are state, local, or tribal governments.

In some cases, legal fees for a water system to defend against being held liable for cleanup costs has exceeded $7 million per case (Steinzor, 1993). Additionally, the Proposal acknowledges that this will drive entities to more protective waste management practices. With more than 620 million of conventional sludge generated by these systems annually and 110,000 tons of PFAS treatment residuals (not including the substantial quantities of biosolids produced by small POTWs), even a small increase in waste management costs resulting from preparation and aversion to ongoing liability would quickly exceed the $100 million cost impact for these small governments. Existing case studies for increased waste management costs discussed in Section 1 demonstrate that cost increases are likely to be at least 10 times higher.

These costs do not include those borne by small governments entities like local fire stations and small governments engaged with participating in regional waste management facilities.

## 5. Establishing a Regulatory Precedent

The Proposal references a number of qualitative studies on PFOA and PFOS to support finding that PFOA and PFOS may present a significant danger and baldly claims the "level of evidence" clearly is sufficient to support this rule. It is not feasible for the public to comment on this finding given that Agency has not defined what level of evidence is needed – neither qualitatively nor quantitatively. If the EPA intends to

provide the public with a meaningful opportunity to comment on this rulemaking, and the forthcoming advanced notice of proposed rulemaking for additional PFAS, then the EPA needs to clearly document this threshold. This is critical given that the Proposal acknowledges not only that release data needs to be collected to determine "resulting risks to human health and the environment" but also that the "evidence is still evolving" and "findings are mixed".

The Proposal makes clear that the recently published interim drinking water health advisories for PFOA and PFOS have played a role in supporting this proposed CERCLA designation. However, the basis for these health advisories carries various levels of margins of safety and a critical health effect endpoint that remains to be well-understood and is still debated by the toxicological community. Specifically, the basis for these advisories are studies from the Faroe Islands on child cohorts with inverse association between PFOA and PFOS levels and antibody serum levels; the Agency's draft technical document for the advisories specifically notes that this assumes that the serum concentration is signaling a change in immune system response generally. Notably, toxicologists have noted that these levels of exposure have not yet been found to be clinically significant decreased viral protection and that the evidence for immunomodulation is still weak, at best (Antoniou, 2022).

Additionally, while the Proposal cites the full spectrum of potential health effects that have been studied and associated with PFOA and/or PFOS levels, the analysis fails to contextualize the relevance of these various health effects at relevant and likely levels of exposure in the environment. Information from the EPA is not available with respect to potential health risks of PFOA and PFOS for currently detectable levels in environmental media. Without this analysis, it is difficult to ascertain the Agency's expectation of what adverse health effects are being addressed. As Paracelsus famously recognized, "only the dose makes the poison". This is critical given that the health advisories are indicative of safe levels of PFOA and PFOS from a perspective of a vaccine response decrease, which has been characterized by toxicologists as a weak association and lacking data indicating increased prevalence of viral infections (Antoniou, 2022). The EPA would be well-served to transparently discuss other health effects, potentially with stronger evidence, with a discussion about the levels of exposure that would be relevant. For example, it is currently unclear if cardiovascular disease, carcinogenicity, or developmental effects may be relevant at levels above the interim health advisory (EPA, 2022i).

The Agency's statement that a substance is scientifically either "hazardous" or "non-hazardous" is contrary to toxicological theory, how environmental risk is typically assessed. A substance's hazard is dependent on the likeliness of exposure at levels of consequence. The Agency provides a thorough, yet rudimentary summary of these details qualitatively in the proposal and fails to take it a step further with a quantitative assessment of the conditions being addressed by the Proposal. Given that this marks the first time in CERCLA's history that the Agency is using its authority to add to the list of CERCLA hazardous substances, it is clear that the Agency recognizes that this statutory authority requires more than independent demonstrations of risk beyond toxicity and potential occurrence. Without considering feasibility (i.e., costs) and the likelihood of exposure to levels that have health effects, the EPA's lays forward a path that could support designating sodium as a hazardous substance given its well-documented impact on cardiovascular disease and its prevalence in the environment. Unless this is the intent of the EPA moving forward, the Agency would be well-served to reconsider the regulatory process that is being taken.

## 6. Creating a Publicly Available PFAS Release Database

The Proposal requests public input on "strategies to improve access to the reporting data expected to be collected for communities with environmental justice concerns". Public access to data used by the EPA to advance cleanups, decision making processes, and regulatory actions is necessary for transparency. Currently, the EPA only requires public water systems to public and make available PFAS monitoring data. Meanwhile, public water systems and the public are limited in their ability to find and access PFAS release data from manufacturers and users. In proposing the EPA's PFAS Data Reporting and Recordkeeping Rule under TSCA, AWWA submitted comments on the need for a publicly available, geospatially represented database immediately (AWWA, 2022b). Specifically, AWWA et al. requested that the EPA develop a web-based, interactive mapping platform that allows users to view and sort data regionally and that the publicly accessible data should include:

1. Year of Chemical Release
2. Individual PFAS compounds produced, used, and released
    a. For each PFAS release:
        i. Amount
        ii. Maximum concentration of the release
        iii. Disposal method
3. Adequate facility information to allow drinking water risk evaluation for sources, including the address of the facility releasing PFAS and the North American Industry Classification System (NAICS) code for the facility.

If the EPA's OLEM intends to develop a database to inform the public on PFAS releases, the office is encouraged not to create a standalone database but to work with others internally (e.g., the Office of Water, Office of Chemical Safety and Pollution Prevention, etc) and externally (e.g., Department of Defense) to generate a central database location with relevant data on releases and contamination from across the various federal agencies. Providing publicly available data in multiple locations complicates the transparency of the data and its utilization by the Agency.

## 7. Available Regulatory Alternatives

The Proposal represents a substantial action by the Agency to address PFAS. As required by UMRA, the EPA should consider alternative regulatory options that can be leveraged, consider the costs of the alternatives, and utilize the regulatory option that is most cost-effective or document the reason for why the less cost-effective option is being used. The EPA is advancing a wide variety of regulatory actions and guidance on PFAS that have overlapping outcomes. The Proposal has not acknowledged the regulatory landscape in earnest, let alone discussed the potential for these alternatives to potentially achieve the goals of the hazardous substance designation as well as to avoid unduly burdening small entities.

On numerous occasions and throughout the Proposal, the Agency has expressed interest in alleviating equity issues resulting from water systems and other innocent parties from being held liable under CERCLA and subject to legal fees and cleanup costs that will be passed on to innocent taxpayers and rate payers. Radhika Fox, the EPA's Assistant Administrator for Water and member of the EPA's PFAS Council has noted that the Agency is interested in maintaining biosolid land application as a viable option and acknowledged that it is essential "to this country" and "for effective utility management (InsideEPA, 2022). EPA staff presenting this rule on behalf of OLEM have repeatedly indicated that addressing equity

issues through enforcement discretion will be a key aspect of how the EPA implements the rule (EPA, 2022d). If finalized, this Proposal will damage the future viability of land application for biosolids, driving water systems and farmers to consider options with less susceptibility to future lawsuits.

The following sections discuss two regulatory alternatives for achieving these goals: (i) Leveraging Ongoing Rulemakings in Development and (ii) Designating Specific PFAS Wastes as Hazardous Substances (under CERCLA) or Hazardous Wastes (under RCRA).

## Leveraging Ongoing Rulemakings in Development

The Proposal describes objectives and beneficial outcomes of the rule that will be achieved through other parallel efforts identified by the EPA's PFAS Strategic Roadmap, which include:

- Reporting and Recordkeeping Requirements for PFAS under the TSCA (EPA, 2021a)
- ELGs for the Organic Chemicals, Plastics, and Synthetic Fibers Point Source Category and Metal Finishing Point Source Category under the CWA (EPA, 2021d)
- Listing Four PFAS Substances as Hazardous Constituents under the RCRA (EPA, 2021c)
- Changes to the Reporting Requirements for PFAS under the EPCRA (OIRA, 2022a; EPA, 2021b)
- Issuing guidance memoranda on addressing PFAS through the NPDES (EPA, 2022j)

The above list of existing or forthcoming proposed regulations and guidance for PFOA and PFOS represent a wide spectrum of actions for addressing PFAS in the environment. In many instances, these rules achieve similar objectives as the Agency claims the Proposal will achieve. This is shown in more detail in the following table and their anticipated impact in achieving the goals stated by the CERCLA proposal are discussed in the following sections.

Table 3 – Ongoing Regulatory Actions with Overlapping Benefits from the Proposal

| Ongoing Efforts | Data Collection on Releases and Exposure | Improving waste management practices for PFAS wastes | Reinforcing the polluter pays principle |
|---|---|---|---|
| **TSCA Data Reporting and Recordkeeping** | X | X[1] | X[2] |
| **ELGs under CWA** | X | X | X |
| **Listing PFAS under RCRA as hazardous constituents** | | X | X |
| **Listing PFAS Wastes streams under RCRA** | X | X | X |
| **EPCRA Reporting** | X | X[1] | X[2] |

[1] According to the Agency, data reporting on releases to the environment is will pressure entities releasing PFOA and PFOS to value better waste management practices to avoid liability.

[2] Entities required to report under TSCA and EPCRA primarily represent manufacturers and commercial users of PFAS. In considering that these entities would be required to report and value better waste management practices, this will place the pressure on polluters.

### *Improved Data Collection on PFAS Releases*

The Proposal cites effects of this proposed designation would include requiring reporting of releases of PFOA and PFOS, improving the understanding of where releases occur and the quantities that are involved. It is unclear, however, what marginal benefit will be realized given that there are several forthcoming regulations that will also require data reporting.

The EPA's Office of Chemical Safety and Pollution Prevention (OCSPP) currently has a legal deadline to finalize the TSCA Data Reporting and Recordkeeping Rule for PFAS by January 1st, 2023, which will require that all manufacturers of more than 1,300 PFAS (including PFOA and PFOS) submit information on releases of these substances since January 1st, 2011. The EPA's OCSPP is also working towards revising existing release reporting rules under EPCRA that will require manufacturers, users, and other types of entities to report annually on releases of more than 175 PFAS (EPA, 2021a; EPA, 2021b; OIRA, 2022a)

The Office of Water also is advancing several rules that will bring forward data collection on releases of PFAS to environment and potential exposure to communities. Under SDWA, the EPA's UCMR 5 will require more than 10,000 water systems across the U.S., representing a vast majority of the population in the U.S. to monitoring for 29 PFAS substances in finished drinking water and to identify potential sources of PFAS contamination nearby (EPA, 2021e). This data is anticipated to help demonstrate the extent of contamination in drinking water sources and will improve public understanding of potential exposure to drinking water through public outreach and notifications. The Office of Water is also working towards CWA ELGs and studies to support these that will help the Agency and the public better understand PFAS releases from manufacturers, metal finishers and others (EPA, 2021d). Beyond these existing regulations, the EPA's Office of Water also has authority to issue testing orders under the CWA for target industries in support of not only expanding public understanding but also the data availability that the Agency can leverage for new ELGs.

It is unclear whether and how the Agency has considered the overlapping requirements of these rules and the CERCLA reporting requirements and should clearly discuss these varying requirements and the marginal impact on data reporting that would be expected with a CERCLA rulemaking.

### *Improved Management of PFAS Wastes*

Another potential benefit of the Proposal highlighted by the Agency is better waste management and/or treatment by facilities handling PFOA and/or PFOS. AWWA is actively interested in how the EPA can create incentives, either voluntary or regulatory, for improved waste management of PFAS wastes that pose substantial risks to the public. AWWA has an established history of encouraging the EPA to leverage strategic source protection for drinking water as a critical route for protecting public health (AWWA, 2020; AWWA, 2021a; AWWA, 2021b). While CERCLA liability is reasonably expected to cause entities to improve waste management practices for PFAS-containing wastes, it is frequently described as a blunt tool that leads to significant collateral damage and equity issues. CERCLA is not intended to be a waste management statute and, as with data collection alternative, there exist more direct routes to advancing waste management practices to protect public health from PFAS.

In response to a petition from the New Mexico Department of the Environment, the EPA's Office of Land and Emergency Management (OLEM) committed in October 2021 to listing four PFAS as hazardous constituents under RCRA (EPA, 2021c). **This rulemaking only represents a step towards a hazardous waste designation but, unlike CERCLA, would provide a direct and clear signal to facilities for how to best manage PFAS wastes.** AWWA has previously encouraged the EPA's OLEM to consider addressing

PFAS wastes under RCRA by listing specific types of wastes, which would ensure that the polluter pays principle is reinforced (Mehan, 2021c). Similar action under CWA to establish ambient water quality standards and ELGs would also ensure that corrective action and financial responsibility for PFAS contamination is placed on polluters. RCRA and CWA both address contamination streams that are at typically lower generation rates, more highly concentrated, and more cost-effective to manage on a mass basis. In comparison, CERCLA clean-ups target contaminant environments and are less cost-effective since they require significant expenditures of legal fees and investment in remediation technologies that – on a mass basis – are less cost-effective.

Again, it is unclear as to how the Agency has considered the potential advantages and disadvantages of these other rules compared to CERCLA and should clearly discuss any anticipated marginal impact on waste management that would be expected with a CERCLA rulemaking.

### *Expediting Clean-Ups of Contaminated Sites*

The EPA also claims that this rulemaking could facilitate an increase in the pace of cleanups of PFOA and PFOS contaminated sites despite acknowledging that the federal government is already authorized to cleanup PFOA and PFOS in some circumstances, such as when the release may present an imminent and substantial danger. As discussed previously, it is unclear what level of evidence the Agency has determined is necessary to make determination that a substance poses a substantial danger to public health or welfare or the environment. In seeking to facilitate an increase in the pace of cleanups for contaminated sites, it's unclear with the current information what is currently limiting the EPA from advancing action without this rulemaking.

Furthermore, the EPA's forthcoming RCRA listing of four PFAS as hazardous constituents will enable cleaning up contaminated sites at RCRA facilities under the EPA's and state's the Corrective Action Authority.

### *Shifting Clean-Up Costs to Polluters*

According to the EPA, the Agency could recover PFOA and PFOS cleanup costs from PRPs to facilitate having polluters and other PRPs pay for these cleanups, rather than taxpayers. This is contrary to CERCLA liability, which is both strict and joint; the EPA does not have a clear authority to ensure that these costs are only sourced from polluters. Shifting clean-up costs from taxpayers to polluters is most effectively achieved through the prevention of contamination with (liquid and solid) waste management rules.

## Designating Specific PFAS Waste Streams as Hazardous Substances

AWWA has encouraged the EPA to explore statutory authorities for providing an exemption to water systems under CERCLA if a proposal moves forward. While the EPA has made clear that it does not believe that there is statutory authority to do this, other regulatory options exist. Such options would ensure that taxpayers and water rate payers are not held liable for PFAS contamination from polluters. Last year, in fact, the Agency was encouraged to specifically explore using RCRA proactively to list high-risk PFAS wastes categorically as hazardous wastes to ensure that these same wastes would be incorporated into CERCLA as hazardous substances (Mehan, 2021b; Mehan, 2021c). This approach could specifically list PFAS wastes generated by 'polluters' (i.e., manufacturers and industrial users) as hazardous wastes, which would automatically define these specific wastes as hazardous substances under CERCLA and avoid these entities from creating third-party claims against ratepayer and taxpayer supported entities.

Additionally, under CERCLA, the EPA has authority to:

> *"…promulgate regulations designating as hazardous substances such elements, compounds, mixtures, solutions, and substances which, when released into the environment, may present substantial danger to the public health or welfare or the environment."*

As a matter of common sense and straightforward reading of this statutory authority, the EPA has clear authority to designate hazardous substances that may be considered elements, compounds, ***mixtures***, ***solutions, or substances***. The EPA is not limited to designating specific compounds as hazardous substances. AWWA agrees that there is not a clearly defined authority for the EPA to provide an exemption to a CERCLA hazardous substance designation and its liability. However, there is clearly defined authority for the EPA to craft a rule that does not simply designate a hazardous substance regardless of the level of the substance, differences in toxicity at different levels, and the risk of exposure to the substance. This would ensure that liability for historical and ongoing releases of PFOA and PFOS are limited to those facilities that the EPA has identified as significant sources to the environment with releases posing a substantial threat, as opposed to broadly designating PFOA and PFOS and introducing liability for entities involved in *de minimis* releases. In considering this alternative regulatory approach, the EPA can also leverage forthcoming data to be collected by the TSCA Data Reporting and Recordkeeping Rule, data collection studies under CWA program, and the extensive research that is available on sources of PFAS to the environment historically.

## 8. Legal Infirmities in the Proposed Rulemaking

AWWA is concerned that the extent of legal deficiencies and infirmities in the Proposal render the action fundamentally flawed and incapable of withstanding a judicial review. A Legal Appendix, prepared by Earth and Water Law, is attached with these comments and the following section highlights AWWA's key concerns.

The EPA's interpretation that CERCLA precludes costs from being considered for the Proposal is flawed and ignores existing precedent, regulatory guidance, and law. CERCLA Section 102(a) does not specify that costs must be considered as part of designating a hazardous substance but does not foreclose the Agency from considering costs. Section 102(a) should not be read as a blanket exemption for the EPA to ignore its other statutory directives to consider costs. For example, under the Unfunded Mandates Reform Act (UMRA), Regulatory Flexibility Act (RFA), presidential Executive Orders (E.O.s), and guidance documents the Agency is expected to consider costs of the Proposal, even indirect costs (Congress, 1995; Congress, 1980; Clinton, 1993; OMB, 2003; EPA, 2010).

If finalized in their current form, the Proposal and its Economic Analysis would violate the APA because EPA failed to provide a reasonable explanation for its decision, failed to consider important parts of the problem, and provided explanation that runs counter to the evidence before it (Supreme Court, 1983). While the EPA has prepared a rudimentary the Economic Assessment for the proposal, the Agency has neglected to estimate costs associated with liability and "better" waste management. EPA's Economic Assessment states that the costs associated with liability are uncertain and indeterminable. At the same time, the EPA does not account for costs associated with waste management changes, which have been documented by others and are readily available for the Agency's utilization. Additionally, EPA is expected to consider (indirect and direct) costs of the rule across the "full probability distribution of consequences." By failing properly account for these costs, EPA created a one-sided analysis that fails to consider

important parts of the problem and prevents the public from meaningfully understanding and commenting on the potential impacts of the Proposal (DC Circuit, 1999; DC Circuit, 2007).[1]

UMRA also requires federal agencies to consider alternatives of the proposed action and to select the least costly option (or provide rationale for not choosing the least costly option). RFA requires a regulatory alternatives analysis to consider approaches that may achieve the objectives with unduly burdening small entities. The Proposal does not provide this analysis, which is critical for the Proposal given that the stated benefits of the rule can be fulfilled by other authorities already identified by EPA including data collection and waste management rules that would reinforce EPA's stated intent of placing financial burdens on polluters (EPA, 2021a; 2021b; EPA, 2021c; OIRA, 2022a).

The environmental justice evaluation, required by E.O. 12898, neglects to comprehensively characterize the adverse and disproportionate impacts on minority, low-income populations and/or indigenous peoples associated with the rule (Clinton, 1994). The EPA states that the Proposal would result in the benefit of "better" waste management practices for wastes potentially containing PFOA and PFOS, which would be driven by the potential liability of these wastes. But EPA does not take into account the impact that potential liability would have on the ratepaying customers of water utilities in environmental justice communities. Water utilities are funded by the local customers that they serve. The budgets of these entities cannot be easily adapted to sudden increases in regulatory burdens imposed by new federal requirements, and the added costs of compliance are generally passed on to customers in the form of higher rates for drinking water. Any new federal mandates or sources of potential liability for these systems are therefore likely to negatively impact the customers in environmental justice communities who can least afford to pay higher rates for their drinking water.

The Proposal is expected to have vast impacts on how PFOA and PFOS wastes are managed, both by water systems and by their waste management contractors. This will lead to greater costs in the treatment of drinking water and wastewater. These increased costs will translate to higher water and sewer rates and will add stress to low-income consumers, compounding existing affordability challenges. Additionally, because many hazardous waste facilities are located in environmental justice communities, a rule that drives additional stress and reliance on these facilities could further degrade air quality and water quality within these communities (Tishman, 2019). The Agency should revise its environmental justice analysis to comprehensively consider these additional burdens and determine if these adverse effects justify the benefits of the Proposal.

More broadly, our review of the Proposal's Economic Analysis suggests that Agency has failed to make use of its own internal data and other publicly available information, such as the Chamber of Commerce's estimation of cleanup costs at non-federal sites (Chamber of Commerce, 2022). We are concerned more generally that the EPA has not properly consulted with its own subject matter experts and outside stakeholders to understand the implications that the Proposal would have on water systems and other entities impacted. This Proposal marks the first time in history that a hazardous substance designation under CERCLA is being made directly, and the Proposal fails to chart a defensible, clear, and reasoned regulatory precedent for using this authority in the future. This is apparent in the Proposal's failure to both (i) objectively define when a substance is hazardous under CERCLA (and to apply this framework to

[1] *The DC Circuit ruled in 1999 that "[T]he most critical factual material that is used to support the agency's position on review must have been made public in the proceeding and exposed to refutation" and in 2007 "The failure to provide an opportunity for comment on the model's methodology therefore constitutes a violation of the APA's notice-and-comment requirements."*

PFOA and PFOS) and (ii) clearly communicate the direct and indirect impacts (costs, benefits, environmental justice issues) of the designation.

Unless the EPA remedies these issues, as well as the other issues detailed in this letter and the other legal infirmities identified in the attached Legal Appendix before issues any final rule, a court may set aside the rule under APA because it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" and, if finalized, promulgated "without observance of procedure required by law" (Congress, 1946; AWWA, 2022a). As detailed through this letter, the EPA has failed to consider many important aspects of the problem and when this additional information is taken into account it is unlikely that the Proposal could be supported by the weight of the evidence before the Agency.

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# Appendix A

Legal Appendix to the Comments of the American Water Works Association on EPA's Proposal to Add Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) to the CERCLA List of Hazardous substances

# LEGAL APPENDIX TO THE COMMENTS OF THE AMERICAN WATER WORKS ASSOCIATION ON EPA'S PROPOSAL TO ADD PERFLUOROOCTANOIC ACID (PFOA) AND PERFLUOROOCTANESULFONIC ACID (PFOS) TO THE CERCLA LIST OF HAZARDOUS SUBSTANCES

**November 7, 2022**

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**LEGAL APPENDIX**

EPA's proposal to add Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) to the list of hazardous substances under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) [1] is legally deficient.

If finalized based on the current record and analysis developed by EPA, this proposal cannot withstand judicial review. Before proceeding with this regulation, EPA must develop a supplemental proposal that addresses the flaws identified below.

## I. EPA Must Provide a Reasonably Detailed Description of the Need for Regulatory Action

To ensure reasoned decisionmaking, Executive Order 12,866 and OMB Circular A-4 require agencies to identify the need for a proposed regulatory action. As discussed below, to ensure unfunded mandates are minimized and that regulations do not impose unnecessary burdens, the Regulatory Flexibility Act (RFA)[2] and the Unfunded Mandates Reform Act of 1995 (UMRA)[3] require similar information. Finally, to ensure a meaningful opportunity for public participation, the Administrative Procedure Act (APA) requires agencies to provide notice of the substance of

[1] Proposed Rule, Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances, 87 Fed. Reg. 54,415 (Sept. 6, 2022) (hereinafter NPRM).

[2] *See* 5 U.S.C. §§ 603(b)(2), 605 (unless an agency certifies that a rule, if promulgated, will not have a significant economic impact on a substantial number of small entities, each proposed rule requires a regulatory flexibility analysis that includes a succinct statement of the objectives of the proposed rule). The certification must be supported by a statement of the factual basis for the certification. As discussed below, EPA's economic assessment does not support such a certification.

[3] *See* 2 U.S.C. § 1535 (for rules meeting the UMRA threshold, agencies must consider "a reasonable number" of regulatory alternatives and select the "least costly, most cost-effective or least burdensome alternative" that achieves the objectives of the rule). As discussed below, EPA's economic assessment does not support a certification that the UMRA threshold is not met by this proposal. *See infra* Part III.C and D.

a proposed rule or a description of the subjects and issues involved and a statement of basis and purpose in a final rule.[4]

Despite these requirements, EPA's NPRM fails to clearly and consistently articulate the need for listing PFOA and PFOS as hazardous substances under CERCLA.

The Economic Assessment in the docket for the NPRM states that the need for regulatory action is based to further CERCLA's primary goal of protecting public health and welfare and the environment through the following effects:

> It improves the quality of information available and will result in a more comprehensive understanding of the number and locations of PFOA and PFOS releases meeting or exceeding the reportable quantity (RQ). It will also signal to the market that there is value in the prevention of releases. An indirect effect of the designation is the improved ability to transfer response costs from the public to polluters, and the potential to accelerate privately financed cleanups.[5]

EPA's press release announcing the NPRM states that the action is "to protect people and communities from the health risks posed by certain PFAS" and claims to achieve that goal by "increas[ing] transparency around releases of these harmful chemicals and help[ing] to hold polluters accountable for cleaning up their contamination." The press release also states that "EPA is focused on holding responsible those who have manufactured and released significant amounts of PFOA and PFOS into the environment."[6] Finally, EPA alleges that listing PFOA and

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[4] 5 U.S.C. § 553(b) and (c) (requiring notice in a proposal and a statement of basis and purpose in a final rule). If the purpose of a rule changes between the proposed rule and the final rule, the public will have been denied notice and an opportunity to comment.

[5] Economic Assessment of the Potential Costs and Other Impacts of the Proposed Rulemaking to Designate Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as Hazardous Substances (EPA-HQ-OLEM-2019-0341-0034) (hereinafter Economic Assessment), at 4.

[6] Press Release, EPA Proposes Designating Certain PFAS Chemicals as Hazardous Substances Under Superfund to Protect People's Health (Aug. 26, 2022), available at https://www.epa.gov/newsreleases/epa-proposes-designating-certain-pfas-chemicals-hazardous-substances-under-superfund and attached.

PFOS as CERCLA hazardous substances will increase the number and speed of PFOA and PFOS response activities.[7]

The NPRM preamble asserts that this proposed regulatory action "would ultimately facilitate cleanup of contaminated sites and reduce human exposure to these 'forever' chemicals."[8] However, the NPRM also characterizes these results as indirect benefits.[9]

It appears that creating liability for PFOA and PFOS releases is a major goal of EPA's regulatory action. Yet, inconsistently, in the NPRM EPA refuses to provide an estimate of the cost of that liability. The agency cannot have it both ways. Either the need for the listing is the ability to take Superfund enforcement actions to compel cleanups or to recover cleanup costs, or the need is simply to provide additional information about releases.

By failing to clearly and consistently state whether listing PFOA and PFOS as CERCLA hazardous substances is needed simply for release information or whether it is needed to impose CERCLA liability, EPA has developed an incoherent regulation and has left the public in the dark as to its objectives. EPA must correct this deficiency by clearly articulating the need for this regulatory action.

As part of explaining the need for regulatory action, EPA should explain why existing regulations and authorities are not sufficient to address EPA's goals. For example, the RFA requires identification of all relevant federal rules that may duplicate, overlap, or conflict with the proposed rule.[10]

If the regulatory purpose is information on releases, EPA must discuss the information it already collects for 180 PFAS chemicals, including PFOA and PFOS, as part of the Toxic Release

[7] 87 Fed. Reg. at 54,439.
[8] *Id.* Fed. Reg. at 54,415.
[9] *Id.* at 54,419-20.
[10] *See* 5 U.S.C. § 603(b)(5).

Inventory (TRI).[11] EPA also must discuss the information it plans to collect on PFAS discharges under the Clean Water Act.[12] While not all facilities are subject to the TRI and not all facilities are on the list of sectors for which EPA plans to develop Clean Water Act effluent limitations guidelines, both include the manufacturing sectors that EPA claims are the focus of its rulemaking.[13]

If the regulatory purpose is to increase PFOA and PFOS cleanups, it is noteworthy that EPA has used existing authorities to address PFAS releases itself and to compel others to address such releases.[14]

It also is noteworthy that states are taking action to regulate PFAS[15] and both EPA and other federal agencies are taking action to address PFAS under a variety of federal authorities.[16]

Despite acknowledging this regulatory background, EPA fails to "examine whether existing regulations (or other law) … should be modified to achieve the intended goal of the regulation more effectively."[17] As a result, it is not clear what "compelling public need" EPA intends to address with this proposal.[18] To correct this deficiency, EPA should explain why the baseline of existing and planned regulatory actions is insufficient and what gap it intends to fill with the NPRM.

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[11] The National Defense Authorization Act for FY 2020 required EPA to add 180 PFAS to the list of substances that must be reported under the Toxics Release Inventory (TRI). https://www.epa.gov/system/files/documents/2022-03/tri_non-cbi_pfas_list_3_08_2022_final.pdf

[12] EPA has announced plans to develop Clean Water Act Effluent Limitation Guidelines (ELGs) for nine industrial categories. *See* 86 Fed. Reg. 51,155 (Sept. 14, 2021) and https://www.epa.gov/eg/preliminary-effluent-guidelines-program-plan A facility subject to an ELG must monitor and report pollutant discharges.

[13] *See* 40 C.F.R. § 372.23 (list of SIC and NAICs codes subject to the TRI) and *supra* note 9.

[14] Economic Assessment, at 32-33; 87 Fed. Reg. at 54,436-37.

[15] Economic Assessment, at 33-38; 87 Fed. Reg. at 54,432-36.

[16] 87 Fed. Reg. at 54,429-32.

[17] Executive Order 12,866, sec. 1 (b)(2).

[18] Executive Order 12,866, sec. 1 (a).

If the "compelling public need" is to accelerate PFOA and PFOS response actions then it also is highly relevant that Congress recently reinstated the petroleum and chemical excise taxes that are deposited into the Superfund Trust Fund and has made those receipts available to EPA, without further appropriation.[19] The Congressional Budget Office estimates that the reinstatement of chemical excise taxes will raise $14.45 billion over ten years and reinstatement of the petroleum excise taxes will raise $11.7 billion over ten years, for a total of *$26.45 billion*.[20] EPA fails to even mention this critical fact in its NPRM. As part of its analysis of the need for regulation, EPA must consider the impacts of this funding and whether it will be more effective in accelerating PFOA and PFOS cleanups (if that is EPA's objective). In fact, given the well documented delays associated with using an enforcement approach to addressing hazardous substance releases, creating liability for PFOA and PFAS releases may delay, rather than accelerate, cleanups.[21]

In a supplemental proposal, EPA should clearly and consistently state the need for regulatory action. This information is necessary to allow EPA to clearly evaluate alternative approaches, develop a coherent regulatory proposal, and allow the public to comment on whether the proposal will meet EPA's objectives.

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[19] Pub. Law 117-58, div. H, title VIII, sec. 80201 (reinstating the Superfund chemical excise taxes for 10 years); Pub. Law 117-58, div J, title VI, sec. 613 (making all excise taxes credited to the Superfund available for spending, without further appropriation); Public Law 117-169, sec. title I, sec. 13601 (permanently reinstating the Superfund petroleum excise taxes).

[20] Congressional Budget Office, Cost Estimate, Senate Amendment to H.R. 3684, the Infrastructure Investment and Jobs Act (rev. Aug. 9, 2201); Congressional Budget Office, Estimated Budgetary Effects of H.R. 5376, the Inflation Reduction Act of 2022 (rev. Aug. 5, 2022), available at www.cbo.gov and attached.

[21] *See, e.g.*, H. McBeth, ed., Looking Back to More Forward: Resolving Health & Environmental Crises, Chapter 6: Superfund at 40: Unfilled Expectations, at 220 ("At some NPL sites, [enforcement] negotiations contribute to long cleanup actions."), Environmental Law Institute, October 2020, available at http://www.kateprobstconsulting.com/wp-content/uploads/2020/11/Superfund-Chapter.pdf#:~:text=Superfund%20at%2040%3A%20Unfulfilled%20Expectations%20189%20port%20of,the%20site%20where%20the%20hazardous%20substances%20were%20brought and attached.

## II. EPA Must Provide an Assessment of Potentially Effective and Reasonably Feasible Alternatives.

To ensure reasoned decisionmaking, Executive Order 12,866, OMB Circular A-4, and the RFA all require agencies to assess alternatives to a proposed regulatory action.[22] Alternative approaches to be considered include fees, penalties, subsidies, marketable permits or offsets, and *changes in liability* or property rights.[23] For rules meeting the UMRA threshold, an agency must select the "least costly, most cost-effective or least burdensome alternative" that meets the objectives of the rule, or explain why that alternative was not selected.[24] For rules meeting the RFA threshold, an agency must describe "any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities."[25]

Despite these requirements, EPA's NPRM and Economic Assessment include *no discussion of alternatives*. The absence of such a discussion is remarkable given the fact that on January 14, 2021, EPA prepared an Advanced Notice of Proposed Rulemaking (ANPRM) seeking comment on alternatives to address PFOA and PFOS environmental contamination.[26] EPA decided to forego comment on alternatives, withdrew this ANPRM, and instead proceeded with this NPRM. Its failure to consider alternatives is a significant flaw because, as discussed below, less burdensome regulatory alternatives exist if EPA's goal is, as stated in its press release: "holding responsible those who have manufactured and released significant amounts of PFOA and PFOS

[22] Executive Order 12,866, sec. 1 (b)(3); OMB Circular A-4, part C.
[23] OMB Circular A-4, at 8.
[24] *See* 2 U.S.C. § 1535.
[25] *See* 5 U.S.C. § 603(c).
[26] Addressing PFOA and PFOS in the Environment: Potential Future Regulation Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act, Advance Notice of Proposed Rulemaking, Jan. 14, 2021, available at https://www.epa.gov/sites/default/files/2021-01/documents/frl-10019-13-olem_addressing_pfoa_pfos_anprm_20210113_admin-508.pdf and attached.

into the environment." EPA's NPRM would drag innocent parties into the quagmire of CERCLA liability even though practical and effective alternatives exist.

### A. Listing PFOA and PFOS as Hazardous Substances Under Section 102 of CERCLA Is an Unduly Burdensome Alternative for Addressing PFOA and PFOS Releases

An evaluation of alternative regulatory approaches demonstrates that section 102 of CERCLA can be a sledgehammer. Using that authority to list PFOA and PFOS as CERCLA hazardous substances will unfairly expose many innocent parties to liability for cleanup costs and will require them to incur wasteful transaction costs.

Listing a substance under CERCLA creates liability based on a person's *status*, not on whether the person caused or contributed to contamination. Under EPA's NPRM, if there is a release of PFOA or PFOS to the environment, the United States, a state or local government, any other person who is liable for cleanup costs, and any other person who incurs cleanup costs all can sue the following classes of persons:

> (1) the current owner and operator the facility (the term facility broadly includes pipes and tanks, etc. as well as land and buildings) from which the release took place (current owner/operator liability),
> (2) any person who owned or operated the facility at the time of hazardous substance disposal (past owner/operator liability),
> (3) any person who arranged for hazardous substance disposal or treatment, or arranged for the transportation of their hazardous substances (arranger liability), and
> (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities or sites selected by such person (transporter liability).[27]

Courts have interpreted liability broadly, sweeping in persons who had nothing to do with causing or creating the contamination.

In its press release announcing the NPRM, EPA acknowledges the overbreadth of CERCLA liability but claims that it will exercise enforcement discretion to "ensure fairness for minor

[27] 42 U.S.C. § 9607(a)(1)-(4).

parties who may have been inadvertently impacted by the contamination."[28] *This statement is not reassuring.* Even if EPA decides to forego suing a party inadvertently caught up in CERCLA liability, the reality is that only about a third of Superfund cases are filed by the federal government.[29] In EPA's nonbinding guidance to EPA regions on the exercise of enforcement discretion under CERCLA, it is telling that the vast majority of the cases cited in guidance involve private party plaintiffs.[30]

It is a common strategy for an industrial entity that is sued by EPA to file third-party contribution claims to bring as many small and municipal entities into a Superfund case as possible. For example, at the Operating Industries Superfund Site in California, the corporations targeted by EPA for the cleanup of this landfill sued 29 cities and towns, which over the course of three years spent *$7 million* on legal fees and technical experts.[31] The goal of these third-party plaintiffs is not only to spread costs, but also to gain leverage with EPA over cleanup costs.[32] Similarly, after entering into an agreement with EPA and New Jersey to carry out the remedial investigation at the Passaic River Superfund Site, the defendants filed a third-party

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[28] *See supra* note 6. Hereinafter, this Legal Appendix adopts EPA's terminology and refers to these parties as "inadvertent parties."

[29] "Superfund Litigation Has Decreased and EPA Needs Better Information on Site Cleanup and Cost Issues to Estimate Future Program Funding Requirements," GAO-09-656 (July 2009), at 39, available at https://www.gao.gov/assets/gao-09-656.pdf and attached.

[30] *See, e.g.,* EPA, *Enforcement Discretion Guidance Regarding Statutory Criteria for Those Who May Qualify as CERCLA Bona Fide Prospective Purchasers, Contiguous Property Owners, or Innocent Landowners ("Common Elements")* (Jul. 29, 2019), available at https://www.epa.gov/sites/default/files/2019-08/documents/common-elements-guide-mem-2019.pdf and attached.

[31] *See* Steinzor, R and Kolker, D, "Superfund Liability dumped onto local governments," Government Finance Review, Aug. 1, 1993, available at https://www.thefreelibrary.com/Superfund+liability+dumped+onto+local+governments.-a014379911 and attached.

[32] *Id.*

complaint under the New Jersey Spill Act against 80 local governments, the port, the New Jersey Department of Transportation, and the State of New Jersey.[33]

It also is important to note that CERCLA liability has *no threshold*. If a person falls into a class of responsible parties, then they can be found liable irrespective of the volume or concentration of hazardous substances associated with them (as current or past owners, arrangers, or transporters).[34] Given EPA's recent drinking water health advisories for PFOA, PFAS, GenX and PFBS, even incredibly low levels of contamination may impel someone to do a cleanup, starting a round of lawsuits over who pays.[35]

The only way for EPA to protect "inadvertent parties" from third party lawsuits is to enter into enforcement agreements with individual entities that protect the settling parties from third-party contribution actions. However, each settlement must include an allegation that the settling party is liable under CERCLA, some payment or other consideration for the settlement,

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[33] *See* Third-Party Complaint*, NJ DEP, et. al v. Occidental Chem. Corp., et al*, Superior Ct N.J., docket no. ESX-L-9868-05 (Feb. 4, 2009), available at https://www.nj.gov/dep/passaicdocs/njdepoccpleadings.html and attached.

[34] *See Arizona v. Motorola*, 774 F. Supp. 566, 571 (D. Ariz. 1991) (denying Allied-Signal's motion for summary judgment that argued that the "grinding sludge" it sent to the 19th Street Landfill contained only small particles of metals on CERCLA's hazardous substance list because "CERCLA does not impose any quantitative requirement on what constitutes a 'hazardous substance.'"). A person can be held liable for disposing of hazardous substances at "less than background" concentrations. *United States v. Alcan*, 755 F. Supp. 531, 536-37 (N.D.N.Y. 1991).

[35] As noted in the NPRM on June 15, 2022, on an interim basis EPA lowered its drinking water health advisory to 0.004 ppt for PFOA (this number can also be expressed as 4 parts per *quadrillion*) and 0.02 ppt for PFOS, five orders of magnitude lower than the 2016 health advisories and below both the detection and quantification limits for these chemicals. 87 Fed. Reg. at 54,417. While not independently enforceable, under its CERCLA regulations EPA has the authority to require a CERCLA remedy to meet health advisory levels. 40 C.F.R. § 300.400(g)(3) ("The 'to be considered' (TBC) category consists of advisories, criteria, or guidance that were developed by EPA, other federal agencies, or states that may be useful in developing CERCLA remedies). *See also*, CERCLA Compliance with Other Laws Manual, EPA/540/G-89/006 (Aug. 1988), at 1-56 and 1-86, available at https://semspub.epa.gov/work/HQ/174076.pdf and attached.

and must be negotiated by EPA and Department of Justice (DOJ) attorneys and attorneys representing the settling parties.

A recent study by researchers from Northeastern University and the National Institute for Environmental Health Sciences estimates that there are 57,000 sites in the United States with probable PFAS releases.[36] This number includes 4,255 wastewater treatment plants, 4,765 solid waste landfills, and 519 airports.[37] The study does not attempt to count the number of biosolids application sites.

Each PFAS release site will have owners, operators, generators, and transporters associated with it. Given the enormous number of "inadvertent parties" created by CERCLA's liability scheme, EPA, DOJ, and those parties would need to expend significant time and resources to create settlements with protection from contribution claims for responding to PFOA and PFOS releases.

A similar situation arose in the context of brownfields redevelopment. Until enactment of liability protections in 2002, many persons inadvertently became potentially liable parties for contamination they did not cause if they invested in brownfields. EPA attempted, unsuccessfully, to protect these parties with enforcement discretion guidance and ended up using individual prospective purchaser agreements to provide liability protections. Saving time

[36] Derrick Salvatore, Kira Mok, Kimberly K. Garrett, Grace Poudrier, Phil Brown, Linda S. Birnbaum, Gretta Goldenman, Mark F. Miller, Sharyle Patton, Maddy Poehlein, Julia Varshavsky, and Alissa Cordner, "Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources, Environmental Science & Technology Letters," available at https://pubs.acs.org/action/showCitFormats?doi=10.1021/acs.estlett.2c00502&ref=pdf and attached.

[37] "Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources, Supporting Information for Publication," available at https://pubs.acs.org/doi/10.1021/acs.estlett.2c00502?goto=supporting-info (attached).

and transaction costs was a primary reason that EPA supported the Bona Fide Prospective Purchaser liability protections enacted by Congress in 2002.[38]

1. Examples of Potential Impacts on "Inadvertent Parties"

Under CERCLA's liability scheme, if EPA finalizes its proposed hazardous substance listing many "inadvertent parties" are likely to be the victims of extensive litigation.

Parties engaging in responsible disposal activities could fall prey to third party lawsuits. For example, the litigation surrounding the Omega Chemical Corporation Superfund site included hundreds of parties who thought they were responsibly recycling their refrigerants and solvents by sending them to Omega. In a consent decree filed in October 2016, EPA settled with 243 parties, including three cities and one county, several state agencies, school districts, and universities.[39]

Parties providing water and wastewater services could fall prey to third party lawsuits. For example, in Montgomery County, Maryland, a developer successfully sued the Washington Suburban Sanitary Commission to recover costs for cleaning up groundwater contaminated with dry cleaning solvents (tetrachloroethylene a.k.a PCE) that were disposed of in the sewer. In this case, *Westfarm Assocs. Ltd. Pshp. v. Washington Suburban Sanitary Commission (WSSC)*,

[38] After Congress enacted CERCLA section 107(r), EPA issued a memorandum noting that one of the effects of the new liability limitation was a "significant savings of time and transaction costs." *See* EPA, Bona Fide Prospective Purchasers and the New Amendments to CERCLA (May 31, 2002), at 3, available at https://www.epa.gov/sites/default/files/documents/bonf-pp-cercla-mem.pdf and attached.

[39] *United States, et al v. Abex Aerospace, et al,* C.D. Cal. No. 16-cv-02696, document 19-1. In a 2020 administrative *de minimis* settlement at the same Superfund site, EPA settled with another 269 parties, including 10 cities and two counties. *In the Matter of: Omega Chemical Superfund Site*, *Administrative Settlement Agreement and Order on Consent (ASAOC)*, EPA Docket No. 2019-13. These settlements are in addition to a 2005 settlement with 171 *de minimis* parties and a 2006 settlement with 12 "ability to pay" parties. *See Omega Chemical Superfund Site 2020 ASAOC*, at paragraph 16.

the court found that WSSC owned sewer pipes, that a sewer pipe was a CERCLA facility, that leaks from a pipe was a CERCLA release, and that WSSC could not prove it was an innocent third party.[40] Because PCE in wastewater leaked from the WSSC collection system and contaminated groundwater under the plaintiff's property the court held that WSSC could be held liable under CERCLA for cleaning up that contamination.[41]

Similarly, in 1990, EPA and the State of California sued Montrose, other corporate entities, and the Los Angeles County Sanitation District (LASCD) for both response costs and natural resource damages for DDT contamination transported to the Pacific Ocean through the county's sewer system.[42] Montrose Chemical Corporation disposed an estimated 1,800 tons of DDT into the county sewer system that discharged to the ocean. LASCD settled with EPA but the court initially declined to enter the consent decree because EPA did not at the time of the settlement have sufficient information on the extent of LACSD's contribution or the total costs. After *nine years of litigation*, LACSD finally was able to settle with EPA and the natural resource trustees in 1999.[43]

Given the incredibly low levels of PFOA and PFOS that EPA recently declared to have an adverse public health effect even extremely low levels of PFAS in groundwater could lead to cleanup actions and the ensuing litigation against innocent "inadvertent parties."

*Such results would turn the "polluter pays" concept on its head.*

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[40] *Westfarm Assocs. Ltd. Pshp. v. Washington Suburban Sanitary Commission*, 66 F.3d 669 (4th Cir. 1995) (granting the developer's motion for summary judgment).
[41] 66 F.3d 669 (4th Cir. 1995).
[42] *United States v. Montrose Chemical Corp*., 50 F.3d 741 (9th Cir. 1995). In the *Montrose* case the chemical companies also filed third-party lawsuits against 150 local government defendants. 50 F.3d at 747.
[43] *United States v. Montrose Chemical Corp*., No. 90-cv-03122 (C.D. Cal.), document 1671, (amended consent decree with settling local government entities) Aug. 19, 1999. The docket for this Superfund case is *319 pages* long.

2. "Inadvertent" parties expend more money on litigation than cleaning up PFAS.

CERCLA is notorious for its inefficiencies and transaction costs.[44]

"Inadvertent parties" will have to pay expensive legal and consultant fees even if they have good arguments that their share of Superfund cleanup costs should be *de minimis*. In CERCLA litigation, the allocation of costs occurs after liability is found. That means parties incur extensive transaction costs to resolve liability issues before they incur even more costs to demonstrate that, if found to be liable, their share of costs should be insignificant.

Those transaction costs could even exceed cleanup expenditures for an "inadvertent party" that is dragged into Superfund litigation. In 1993, EPA's Office of Environmental Economics contracted with Rand Corporation to conduct a study on private sector cleanup expenditures and transaction costs.[45] That study found that for the smaller firms (annual revenues of less than $15 million and those with revenues between $15 million and $100 million) transaction costs averaged *60 percent* of total costs expended on Superfund by those firms.[46] The smaller the volumetric share of waste, the larger the percent of transaction costs.

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[44] *See* Superfund, Information on the Program's Funding and Status, at 11, GAO/RCED-00-25 (Oct. 1999) (estimating responsible party transaction costs to be between $3 billion and $8 billion from 1980 through 1998), available at https://www.gao.gov/products/rced-00-25 and attached; K. Probst, D. Fullerton, R. Litan, Paul Portney, Footing the Bill for Superfund Cleanups, Who Pays and How?, at 111 (the authors estimate responsible party and insurer transaction costs to add an additional 50 percent of costs on top of responsible party cleanup costs), The Brookings Institution and Resources for the Future (1995).

[45] "Private-Sector Expenditures and Transaction Costs at 18 Superfund Sites," Paper Number EE-0265, Rand (1993), available at https://www.epa.gov/environmental-economics/private-sector-cleanup-expenditures-and-transaction-costs-18-superfund-sites and attached. The Rand study looked at costs incurred between 1981 and 1991, when Superfund was relatively new. However, it can be expected that liability for new hazardous substances, like PFOA and PFOS, will create a similar litigation environment.

[46] *Id*. at xii.

As discussed above, EPA can enter into settlement agreements that would shield "inadvertent parties" from third-party lawsuits. But, as noted above, negotiating such an agreement involves significant transaction costs. EPA has finite Superfund enforcement resources and is unlikely to devote a significant amount of those resources to protecting "inadvertent parties" instead of securing additional cleanups.

3. CERCLA's protections for municipalities and innocent landowners will not address the inequities that will result.

CERCLA has some exclusions for local governments and landowners. However, those exclusions will not help most "advertent parties" that are addressing PFAS contamination.

CERCLA's exclusion from generator liability for the disposal of municipal solid waste applies only to material that is essentially the same as waste generated by a household, must be collected as part of normal solid waste collection services, and applies to institutional entities only if they employ no more than 100 persons.[47]

CERCLA's exclusion from owner or operator liability for local governments applies only to governments that acquire property when carrying out a governmental function, as long as the local government did not cause or contribute to the contamination.[48]

CERCLA also includes a liability exclusion for innocent landowners (where contamination is caused solely by a third party) and contiguous property owners (where contamination migrates from the source to an unrelated property, typically the migration of groundwater contamination).[49] However, even if it can prove that the PFAS plume came from another property, the burden will be on the "inadvertent party" to show that it is eligible for the

[47] 42 U.S.C. § 9607(p).
[48] 42 U.S.C. § 9601(20)(D).
[49] 42 U.S.C. § 9607(b)(3) (innocent landowner) and 42 U.S.C. § 9607(q)(1)(A) (contiguous property owner).

innocent landowner or contiguous property owner defense and the costs of demonstrating they are not liable would include the costs of retaining hydrological experts and lawyers.[50]

In short, none of these existing exclusions will protect most "inadvertent parties" from third-party claims and will not prevent those parties from incurring significant transaction costs.

### B. Less Burdensome Regulatory Alternatives Exist that Would Better Address EPA's Stated Goals.

EPA has tools other than CERCLA that can achieve EPA's stated goals of obtaining information about PFAS releases and "holding responsible those who have manufactured and released significant amounts of PFOA and PFOS into the environment." By using a regulatory alternative EPA can avoid creating liability for "inadvertent parties."

One alternative, the Resource Conservation and Recovery Act (RCRA), has the advantage of allowing EPA to circumscribe which facilities are regulated, regulate future disposal of PFOA and PFOS wastes from those facilities to prevent future contamination, and create liability for past releases of PFOA and PFOS from those facilities.

#### 1. The RCRA framework.

RCRA defines hazardous waste as:

> a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may—
>
> (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

[50] To understand the extensive showing that must be made, *see generally* "Enforcement Discretion Guidance Regarding Statutory Criteria for Those Who May Qualify as CERCLA Bona Fide Prospective Purchasers, Contiguous Property Owners, or Innocent Landowners (Common Elements)," (Jul. 29, 2019), available at https://www.epa.gov/sites/default/files/2019-08/documents/common-elements-guide-mem-2019.pdf

> (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.[51]

RCRA authorizes EPA to promulgate regulations to identify hazardous wastes, "taking into account toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics."[52] The statute establishes two approaches to hazardous waste identification: (1) identification of hazardous characteristics, and (2) listing hazardous waste streams.[53]

Listing PFOA and PFOS based on hazardous characteristics would suffer from the same over-reach as a CERCLA hazardous substance listing. That is, parties that inadvertently receive PFOA and PFOS may be forced to get hazardous waste permits just for performing a public service, like providing drinking water, treating wastewater, and managing municipal solid waste, depending on the concentration EPA uses to identify the hazardous characteristic. In contrast, EPA's authority to list hazardous waste streams allows EPA to tailor the listing based on sources, management practices, and risk.

To list a waste stream EPA must establish a record for determining that the waste exhibits a hazardous characteristic, or has been found to be fatal to humans in low doses or is lethal to rats or rabbits at specified doses (identified as acute hazardous wastes), or that it contains a hazardous constituent listed by EPA in Appendix VIII of its RCRA regulations[54] and EPA concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.[55]

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[51] 42 U.S.C. § 6903(f).
[52] 42 U.S.C. § 6921(a).
[53] 42 U.S.C. § 6921(b).
[54] Under 40 C.F.R. § 261.11(a), substances may be listed on Appendix VIII if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects on humans or other life forms.
[55] EPA's regulations for listing hazardous waste are found at 40 C.F.R. § 261.11.

Currently, PFOA and PFOS are not on the RCRA list of hazardous constituents. If listing a waste based on a constituent not currently on Appendix VIII, EPA typically adds the constituent to that appendix in the same rulemaking. A hazardous constituent listing is based on toxicity.[56] EPA has already begun the process of adding PFOA, PFOS, PFBS, and GenX to the RCRA list of hazardous constituents.[57]

EPA has several options for listing a hazardous waste stream. A listing can apply to an unused chemical, such as PFOA and PFOS or Aqueous Film Forming Foam (AFFF), when discarded (such as a spill or disposal of excess product).[58] A listing can apply to a waste from a non-specific source, such as used AFFF.[59] A listing also can apply to the production and processing wastes of specific industries, such as those that manufacture PFAS or use PFAS to formulate other

[56] *See* 40 C.F.R § 261.11(a) ("Substances will be listed on appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.").

[57] *See* Listing of PFOA, PFAS, PFBS, and GenX as Resource Conservation and Recovery Act (RCRA) Hazardous Constituents, RIN 2050-AH26, available at https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202204&RIN=2050-AH26 and attached. While this rulemaking is currently scheduled to be proposed on August 2023, EPA could accelerate it. EPA began its rulemaking to list certain PFAS as RCRA hazardous constituents at the request of the State of New Mexico, which wants to compel the Air Force to cleanup releases of those chemicals at two New Mexico Air Force Bases. *See* Press Release, EPA Responds to New Mexico Governor and Acts to Address PFAS Under Hazardous Waste Law (Oct. 26, 2021). Available at https://www.epa.gov/newsreleases/epa-responds-new-mexico-governor-and-acts-address-pfas-under-hazardous-waste-law and attached.

[58] *See* 40 C.F.R § 261.33 P and U-listed wastes. Under this type of listing unused product would become a hazardous waste when discarded.

[59] *See* 40 C.F.R § 261.31 F-listed wastes. Under this type of listing, AFFF would become a hazardous waste after it was used and its disposal would become regulated. Ordinary use of a commercial chemical products is not considered disposal that creates a solid waste and therefore it does not create a hazardous waste. 40 CFR 261.2. However, disposal of used AFFF would be regulated.

products.[60] In fact, EPA has already begun the process of identifying those manufacturers and users as part of its Clean Water Act effluent limitations guidelines rulemaking.[61]

A listing may exclude wastes managed in ways EPA that believes to be protective or that EPA believes to present a minimal risk. EPA also may list entire classes or types of solid waste if EPA has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the statutory definition of hazardous waste. If a class approach is used, EPA's determination must be based on evidence that is typical or frequent for the class as a whole.[62]

2. Benefits of a RCRA listing.

Using RCRA to identify certain wastes containing PFOA and PFOS as CERCLA hazardous substances has many benefits.

A RCRA listing ensures responsible future management of the hazardous waste. Under RCRA's extensive "cradle to grave" regulations, any person who generates, transports, treats or disposes of a hazardous waste must meet strict RCRA standards.[63]

[60] 40 C.F.R § 261.32 K-listed wastes.
[61] On March 17, 2021, EPA published in the Federal Register an advance notice of proposed rulemaking (ANPRM) seeking data from PFAS manufacturers and PFAS formulators to support the development of effluent limitations guidelines (ELGs) and new source performance standards (NSPS) under the Clean Water Act for direct dischargers and pretreatment standards for facilities that send wastewater to municipal treatment works (POTWs), to be applicable to dischargers in those categories or subcategories. 86 Fed. Reg. 14,560 (Mar. 17, 2021). *See also* EPA's ELG Program Plan 15, identifying industrial categories for the development of PFAS effluent limits, including four related to PFAS discharges. 86 Fed. Reg. 51,155 (Sept. 14, 2021) and https://www.epa.gov/eg/preliminary-effluent-guidelines-program-plan
[62] 40 C.F.R. § 261.11(b).
[63] 40 C.F.R. Parts 263-264.

A RCRA listing creates the ability to compel cleanup of the waste. EPA and states can compel cleanup of releases of hazardous waste and hazardous constituents at RCRA permitted facilities.[64] Moreover, under the CERCLA liability scheme described above, EPA, states, and any person who incurs response costs can compel cleanup of hazardous wastes, wherever found. CERCLA liability comes into effect because *once a waste is listed as a RCRA hazardous waste it falls within the definition of a CERCLA hazardous substance subject to the same liability and the same release reporting obligations*.[65]

A RCRA hazardous waste listing could avoid dragging "inadvertent parties," into the morass of CERCLA liability for PFOA and PFOS in wastewater and biosolids. Under section 1004 of RCRA the term "solid waste" does not include solid or dissolved material in domestic sewage. This exclusion is codified at 40 C.F.R § 261.4(a)(1), which specifies that a mixture of domestic sewage and other wastes passing through a sewer system to a publicly owned treatment works (POTW) is not a solid waste (and therefore cannot be a hazardous waste). Thus, even if a listed hazardous waste is piped to a POTW, it is not a solid waste so it cannot be a hazardous waste. Further, any waste derived from the treatment of the listed waste by a POTW or mixed with other wastewater in a POTW is not considered a listed hazardous waste.[66] Sewage sludge itself could be considered a newly generated solid waste. However, as long as EPA does not include

[64] 42 U.S.C. §§ 6924(u) (releases on the facility) and (v) (releases that have moved beyond the facility's boundary).

[65] 42 U.S.C. § 9601(14) (defining CERCLA hazardous substances to include any RCRA hazardous waste).

[66] The mixture rule says that any mixture of a *listed* hazardous waste and a solid waste *is the listed hazardous waste* (40 CFR 261.3(a)(2)(iv)). The derived-from rule says that any solid waste *derived from* the treatment, storage, or disposal of a *listed* hazardous waste *is considered the listed hazardous waste* (40 CFR 261.3(c)). The contained in policy says that even though contaminated environmental media (like groundwater or surface water) is not a solid waste, and therefore not a hazardous waste, contaminated media would be regulated if it "contains" hazardous waste. *Chemical Waste Management Inc. v. EPA*, 869 F.2d 1526 (D.C. Cir. 1989). But these rules do not apply to material that is excluded from the definition of solid waste.

sewage sludge among the waste streams it chooses to list as hazardous, no RCRA regulation or CERCLA liability would result.[67]

Adding certain PFOA and PFOS waste streams to the list of CERCLA hazardous substances by taking action under RCRA would achieve all the benefits of adding PFOA and PFOS to the list of CERCLA hazardous substances by taking action under section 102 of CERCLA, *without* creating cleanup liability for "inadvertent parties."

### C. EPA Could Tailor a 102 Listing to Specific Compounds or Mixtures.

If EPA insists on continuing to proceed under CERCLA section 102, it could tailor its listing under that authority. The NPRM proposes to list "Perfluorooctanesulfonic acid, salts, & structural isomers'' and ''Perfluorooctanoic acid, & salts, & structural isomers."[68] However, EPA does not need to include all PFOA and PFOS and their isomers in its listing. The term "hazardous substance" includes "any element, compound, mixture, solution, or substance designated pursuant to section 102 of this Act."[69] And, section 102 gives EPA the authority to designate "such elements, compounds, mixtures, solutions and substance which, when released to the environment may resent a substantial danger."[70] Thus, as under RCRA, EPA could focus on specific mixtures or compounds generated by specific sources and avoid sweeping "inadvertent parties" into CERCLA liability in that fashion.

[67] If EPA instead added PFOA and PFOS to the list of wastes that are hazardous by exhibiting the characteristic of toxicity, then sewage sludge could be hazardous depending on the threshold levels of PFOA and PFOS that EPA established. This is another example of how identifying PFOA and PFOS as RCRA hazardous wastes based on a toxicity characteristic would be overbroad.
[68] 87 Fed. Reg. at 54,441.
[69] 42 U.S.C. § 9601(14).
[70] 42 U.S.C. § 9602(a).

## III. EPA Must Estimate and Consider Both Direct and Indirect Costs and Benefits.

### A. EPA's Claim that CERCLA Section 102 Precludes Consideration of Cost is Incorrect.

EPA alleges that section 102 of CERCLA precludes the consideration of cost when making a determination whether to list a substance under CERCLA.[71] The allegation is legally incorrect. Federal administrative agencies are required to engage in "reasoned decisionmaking."[72] When an agency is given the authority to act "as may be appropriate," as it is in section 102, then cost is always a consideration unless expressly precluded by the authorizing statute.[73] The refusal to considers cost renders EPA's proposal unreasonable and that refusal alone would be a basis for *vacatur*.

### B. EPA's Failure to Consider Costs of Response and CERCLA liability violates White House Directives, OMB Guidance, EPA Guidance, and EPA Precedent.

To ensure reasoned decisionmaking, Executive Order 12,866 and OMB Circular A-4 require agencies to quantify and monetize anticipated costs and benefits of the proposal, to the extent feasible. However, EPA has declined to provide even an estimate of the anticipated costs of the response and liability created by listing a substance on the CERCLA list of hazardous substances.[74]

EPA's Economic Assessment lists "attention to better waste management and/or treatment practices for facilities handling PFOA or PFOS in an effort to avoid releases of these substances into the environment" as a *direct benefit* of the NPRM.[75] If the incentive to improve waste management is a direct benefit of the NPRM, then the CERCLA liability creates that incentive

[71] 87 Fed. Reg. at 54,421.
[72] *Michigan v. EPA*, 576 U.S. 743, 750 (2015).
[73] *Id.* at 752.
[74] Economic Assessment, at 10.
[75] *Id*. at 9.

must be a direct cost. Inconsistently, EPA identifies liability costs as indirect.[76] EPA cannot have it both ways. Effects of liability cannot be both direct and indirect.

Even if costs and benefits of CERCLA liability are properly characterized as indirect, Executive Order 12,866 and OMB Circular A-4 do not exclude indirect costs. EPA acknowledges this fact in its Guidelines for Preparing Economic Analysis.[77] So, EPA is required to quantify those costs to the extent feasible.

Instead of doing so, EPA claims that liability costs are too uncertain to quantify.[78] However, when costs and benefits are uncertain, OMB Circular A-4 requires agencies to report estimates as a range.

> When benefit and cost estimates are uncertain (for more on this see "Treatment of Uncertainty" below), you should report benefit and cost estimates (including benefits of risk reductions) that reflect the full probability distribution of potential consequences.[79]

There are numerous sources of estimates of Superfund cleanup costs. For example, under the National Contingency Plan, EPA is required to estimate the costs of response actions.[80] As a result, EPA has significant experience in cost estimation. In fact, in a 2004 report, EPA provided an estimate of the total costs of cleaning up the then existing 456 proposed and final Superfund sites at which remedy construction was not complete.[81]

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[76] *Id.,* at 10.
[77] Guidelines for Preparing Economic Analyses, National Center for Environmental Economics, Office of Policy, U.S. Environmental Protection Agency (Dec. 17, 2010), at 8-7 n. 18, available at https://www.epa.gov/sites/default/files/2017-08/documents/ee-0568-50.pdf and attached.
[78] Economic Assessment, at 10.
[79] OMB, Regulatory Impact Analysis, a Primer, at 18, available at https://www.reginfo.gov/public/jsp/Utilities/circular-a-4_regulatory-impact-analysis-a-primer.pdf and attached.
[80] 40 C.F.R § 300.415(b)(4) (requiring a cost analysis for removal actions); 40 C.F.R § 300.430(e)(9)(iii)(G) (requiring consideration of costs when evaluating remedial alternatives).
[81] EPA, Office of Solid Waste and Emergency Response, Cleaning Up the Nation's Waste Sites: Markets and Technology Trends: 2004 Edition (EPA 542-R-04-015) (reporting costs within the

For PFAS specific costs, EPA's Interim Guidance on PFAS destruction and disposal provides unit costs for various PFAS treatment technologies and notes that is developing cost and performance models for existing and innovative technologies to compare technologies on a cost and efficacy basis.[82] EPA maintains data on PFAS occurrence, handling, and releases to the environment, including at Superfund sites.[83] The U.S. Chamber of Commerce has developed a report estimating costs that would be incurred by the private sector at Superfund sites if PFOA and PFOS become CERCLA hazardous substances.[84] In testimony before the House Appropriations Committee, the Department of Defense (DOD) has informed Congress that PFAS cleanup costs at its installations are likely to exceed $3 billion.[85] At the direction of Congress, DOD also has reported that through FY 2020 it has obligated $772.3 million to address PFAS and plans to obligate an additional $760.9 million after FY 2021.[86] In response to a request from

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range of $16-$23 billion), attached and available at https://nepis.epa.gov/Exe/ZyPDF.cgi/30006II3.PDF?Dockey=30006II3.PDF

[82] EPA, Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances (Dec. 18, 2020), at 46-48, 96 (hereinafter Interim Disposal Guidance) available at https://www.epa.gov/system/files/documents/2021-11/epa-hq-olem-2020-0527-0002_content.pdf and attached.

[83] https://echo.epa.gov/tools/data-downloads/national-pfas-datasets

[84] U.S. Chamber of Commerce, PFOS and PFOA Private Cleanup Costs at Non-Federal Superfund Sites (June 8, 2022), available at https://www.uschamber.com/environment/pfos-and-pfoa-private-cleanup-costs-at-non-federal-superfund-sites and attached. This report estimates only a subset of PFOA and PFOS cleanup costs as it looks only on sites listed on the Superfund National Priority List (NPL) while CERCLA liability applies whether or not a site is on the NPL.

[85] Hearing on the Impact of PFAS Exposure on Servicemembers, before the Military Construction, Veterans Affairs, and Related Agencies Subcommittee of the House Appropriations Committee, March 11, 2020, testimony of Maureen Sullivan, available at https://appropriations.house.gov/events/hearings/impact-of-pfas-exposure-on-servicemembers

[86] Per- and Polyfluoroalkyl Substances Cleanup Costs, Office of the Under Secretary of Defense for Acquisition and Sustainment, July 2021, available at https://denix.osd.mil/derp/featured-content/reports/pfas-cleanup-cost/ and attached. DOD reported only planned expenditures of appropriated funds, spending that it controls. Should PFOA and PFOS become CERCLA hazardous substances, DOD will no longer have control over the location and pace of its PFAS cleanups.

Congress, the Government Accountability Office (GAO) has reported that at the end of fiscal year 2020, DOD estimated that its future PFAS investigation and cleanup costs will total more than $2.1 billion beginning in fiscal year 2021, which is in addition to the $1.1 billion in actual PFAS costs that DOD incurred through fiscal year 2020.[87] GAO also reported that these estimates were preliminary and were significantly lower than what PFAS investigation and cleanup was likely to cost DOD in the future, because the department is still in the early phases of investigating PFAS at its installations. In fact, GAO reports that GAO reports that as of FY 2020 *DOD had not begun any long-term cleanup actions*.[88] Finally, the White House Interagency Policy Committee on PFAS reportedly is examining liability issues arising from airport use of PFAS-containing fire-fighting foam.[89]

*These sources are sufficient for EPA to provide a range of potential response costs, as required by OMB Circular A-4.* Further, given DOD's experience at its sites, it is highly likely that private and public sector response costs will exceed the $100 million threshold for triggering UMRA in more than one year and that CERCLA liability will have a significant impact on a substantial number of small entities as defined in the RFA, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA), as discussed below.

Exclusion of CERCLA litigation costs also is not consistent with EPA precedent. When EPA promulgated its Superfund lender liability rule, EPA did an evaluation of costs and assumed cost

[87] GAO, Firefighting Foam Chemicals, DOD Is Investigating PFAS and Responding to Contamination, but Should Report More Cost Information, GAO-21-421 (June 2021), at 20, available at https://www.gao.gov/assets/gao-21-421.pdf#:~:text=DOD%20estimates%20that%20its%20future%20PFAS%20investigation%20and,in%20the%20early%20phases%20of%20its%20PFAS%20investigation and attached.
[88] *Id.*
[89] "Interagency Group Weighing PFAS Liability Issues For Airport Use of AFFF," Inside PFAS Policy, Sept. 28, 2022, available at https://insideepa.com/daily-news/interagency-group-weighing-pfas-liability-issues-airport-use-afff and attached.

savings to small entities resulting from a reduction in litigation costs resulting from a change to a definition.[90]

Finally, it is disingenuous for EPA to imply that creating CERCLA liability for PFOA and PFOS releases creates no new costs and instead simply transfers responsibility for current expenditures from the public to "polluters." According to EPA:

> An important outcome of the proposed rule is that with PFOA and PFOS designated as CERCLA hazardous substances, response costs are more likely to be borne by responsible parties. Cost transfers from the public to parties responsible for pollution are associated with the enhancement of EPA's existing authority under CERCLA 104(a) to recover costs incurred by the government for site-specific response actions.[91]

The reality is that (1) notwithstanding the authority to do so, EPA currently is not expending significant Superfund trust fund dollars on PFAS releases,[92] (2) EPA carries out only a fraction of hazardous substance response actions, and (3) expenditure of costs for PFOA and PFOS response actions are far more likely to be driven by third party claims, not EPA. Thus, the explosion in PFAS cleanup expenditures that would be driven by this proposed rule is *not part of the baseline* for analyzing costs.

A cursory glance at EPA's PFAS occurrence data makes it clear why this is true.[93] EPA reports PFAS detections at only 245 NPL sites, where it has authority to expend appropriated dollars for remedial actions.[94] In contrast, DOD has notified 2,143 agricultural operations that are

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[90] 57 Fed. Reg. 18,344 (Apr. 29, 1992). The D.C. Circuit vacated this rule on other grounds but that vacatur does not diminish the fact that in 1992 EPA believed that liability costs should be considered when determining whether a Regulatory Impact Analysis is required.
[91] Economic Assessment, at 10.
[92] This could change given the reinstatement of the Superfund taxes, discussed *supra* note 19 and accompanying text.
[93] *See supra* note 82.
[94] *See* 40 C.F.R. 300.425(b)(1) ("Only those releases included on the NPL shall be considered eligible for Fund-financed remedial action."). EPA's list of NPL sites with PFAS is available at: https://echo.epa.gov/tools/data-downloads/national-pfas-datasets#identified

downgradient of military installations with PFAS groundwater contamination.[95] The Federal Aviation Administration maintains a list of the 518 commercial airports that have been required to use PFAS containing fire-fighting foam under FAA regulations.[96] EPA has lists of manufacturers and formulators of PFAS chemicals.[97] Finally, EPA has received reports of PFAS releases from certain industry sectors under the Toxic Release Inventory.[98]

These data undermine EPA's suggestion that cleanup costs will be merely transferred from one party to another. If PFOA and PFAS are listed as CERCLA hazardous substances it is likely that private parties will seek to use CERCLA to compel cleanups at these locations. This activity will result in new costs.

### C. EPA's Failure to Consider Costs of CERCLA Response and Litigation Violates UMRA

EPA certifies that the NPRM "does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments" and claims that "the estimated cost of the proposed rule is not expected to exceed $370,000 a year."[99] EPA's cost estimate is based on reporting costs only and completely ignores the cleanup and litigation expenditures that public and private sector entities will have to make as a result of the CERCLA liability EPA is proposing to create.

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[95] Status of Notifications to Agricultural Operations Pursuant to Section 335 of the Fiscal Year 2021 National Defense Authorization Act, Office of the Under Secretary of Defense for Acquisition and Sustainment, July 2021, at 1, available at https://media.defense.gov/2021/Sep/13/2002852498/-1/-1/0/STATUS-OF-NOTIFICATIONS-TO-AGRICULTURAL-OPERATIONS-PURSUANT-TO-SECTION-335-OF-THE-FISCAL-YEAR-2021-NATIONAL-DEFENSE-AUTHORIZATION-ACT.PDF and attached.

[96] FAA, Part 139 Airport Certification Status List, available at https://www.faa.gov/airports/airport_safety/part139_cert/part_139_airport_certification_status_list and attached.

[97] *See supra* note 61.

[98] EPA has received two years of TRI data on PFAS releases. *See* https://www.epa.gov/chemicals-under-tsca/epa-releases-preliminary-data-2021-toxics-release-inventory-reporting

[99] 87 Fed. Reg. at 54,440.

EPA appears to be relying on its belief that response and litigation costs are not direct costs and that UMRA does not include indirect costs. First, UMRA does not distinguish between direct and indirect costs. It requires an analysis of *expenditures*. Some costs EPA considers indirect, like lost tax revenue, are not expenditures. However, paying cleanup costs and lawyers' fees are indisputably expenditures that will result from this NPRM, if finalized.

EPA's own guidelines for preparing economic analyses acknowledge that "UMRA of 1995 requires that cost estimates take into account both indirect and implicit costs on state and local governments."[100] Those guidelines note that, while the RFA only requires consideration of costs on entities directly regulated by a rule, "provisions in the UMRA and EO 12866 address both direct and indirect impacts, and therefore define the affected population more broadly."[101]

Where a rule may result in governmental or private expenditures exceeding $100 million in any one year, EPA must prepare a statement that includes not only compliance costs but also "disproportionate budgetary effects."[102] Further, for regulations that *either* significantly or uniquely affect small governmental entities, section 203 of UMRA requires additional outreach to and receipt of input from small governmental entities. Ninety-nine percent of drinking water utilities are small and 36,000 of those are governmental entities. A small local governmental entity will be significantly affected by expenditures driven by CERCLA liability. A small local governmental will be "uniquely" affected if "they would incur the higher per-capita costs due to economies of scale, a need to hire professional staff or consultants for implementation, or requirements to purchase and operate expensive or sophisticated equipment."[103] Detecting PFOA and PFOS to determine if a reportable quantity has been released, may require such expenditures.

[100] Guidelines for Preparing Economic Analyses, at 8-7, n. 18.
[101] *Id.* at 9-2.
[102] 2 U.S.C. § 1532(a)(3).
[103] Guidelines for Preparing Economic Analyses, at 9-15.

Even if UMRA did not require consideration of cleanup and litigation expenditures, EPA's errors in omitting direct costs such as the costs of waste management, discussed below, further demonstrates the invalidity of EPA's certification that the NPRM does not contain an unfunded mandate of $100 million or more, as described in the UMRA.[104] In the context of a different rulemaking, Government Accountability Office has testified that:

> Given the uncertainties surrounding EPA's cost estimates, we do not believe that the agency has established that the annual costs of its proposed regulations will not exceed $100 million. Accordingly, we disagree with EPA that the agency's economic analyses adequately supported its determination under the Unfunded Mandates Reform Act that more detailed analyses of costs, benefits, and alternatives were not needed for either of the proposed regulations.[105]

EPA should reevaluate its compliance with UMRA after addressing the flaws in its Economic Assessment, discussed herein.

### D. EPA's Estimate of Direct Costs is Flawed.

#### 1. EPA erroneously omitted costs of improved waste management.

As noted above, EPA's Economic Assessment lists "attention to better waste management and/or treatment practices for facilities handling PFOA or PFOS in an effort to avoid releases of these substances into the environment" as a *direct benefit* of the NPRM .[106] According to EPA, listing PFOA and PFOS has the benefit of "[i]ncentivizing the prevention of releases," thereby reducing "potential threats to public health and welfare and the environment."[107] If improved

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[104] 87 Fed. Reg. at 54,440.
[105] Statement of Peter F. Guerrero, Director, Environmental Protection Issues, Resources, Community, and Economic Development Division, General Accounting Office, Before the Committee on Agriculture, House of Representatives, June 28, 2000, at 13 (discussing EPA's flawed assumptions in the economic analysis for its Total Maximum Daily Load rulemaking), available at https://www.gao.gov/assets/t-rced-00-233.pdf and attached.
[106] Economic Assessment, at 9.
[107] *Id.*

waste management is a direct benefit then it also must be a direct cost. Yet, EPA made no effort to estimate the costs of such improvements.

This issue is particularly significant to the water sector. Faced with potential CERCLA liability for releases from collection or distribution systems, water utilities may increase expenditures on this infrastructure. The cost of addressing leaking pipes is well understood by EPA. EPA's most recent Drinking Water Needs Survey estimates that the United States will need to spend $312.6 billion to replace or refurbish aging or deteriorating pipelines.[108] In 2013 EPA reported that 29 percent of those expenditures were needed to control water loss.[109] EPA's most recent Clean Water Needs Survey estimates that meeting capital needs to repair of POTW conveyance systems will cost $51.2 billion.[110] EPA should include a range of these costs as direct costs in its Economic Assessment.

Further, if PFOA and PFOS become CERCLA hazardous substances, it is likely that solid waste landfills will no longer accept wastes containing PFAS at any levels. As discussed in the AWWA comments to which this Legal Appendix is attached, this outcome will increase drinking water treatment and residuals disposal costs significantly. For example, according to EPA's Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances the cost per pound for incineration is significantly higher than the cost per pound for disposal in a solid waste landfill.[111] Similarly, costs of disposal in a Subtitle C permitted landfill or in a deep well that is

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[108] Drinking Water Needs Survey and Assessment, Sixth Report to Congress, Office of Water (4606M), EPA 816-K-17-002 (Mar. 2018), at 22, attached and available at https://www.epa.gov/dwsrf/epas-6th-drinking-water-infrastructure-needs-survey-and-assessment.

[109] *See* EPA, Water Audits and Water Loss Control For Public Water Systems, EPA 816-F-13-002 (Office of Water 4604M), July 2013, available at https://www.epa.gov/sites/default/files/2015-04/documents/epa816f13002.pdf and attached.

[110] EPA, Clean Watersheds Needs Survey 2012, Report to Congress, EPA-830-R-5005 (Jan. 2016), at 16, attached and available at https://www.epa.gov/sites/default/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf.

[111] Interim Disposal Guidance, at 48 (comparing reactivation, landfill, and incineration costs).

permitted to accept hazardous wastes are much higher than the cost of disposal in a solid waste landfill.

Finally, if the NPRM is finalized as proposed, it is likely that no farms or other facilities will accept biosolids as fertilizer or soil amendments. According to EPA, in 2019 over 2.4 million metric tons of biosolids were applied to the land.[112] If biosolids can no longer be land applied and instead must instead be incinerated, deep well disposed, or landfilled, POTW costs for managing those wastes will increase by 80% to 230%.[113]

Information on all of these costs is available to EPA, yet the agency failed to include these costs in its Economic Assessment for the NPRM. EPA must estimate and consider Increased disposal costs as a direct cost of the NRPM.

2. EPA's Assessment of the Costs of PFOA and PFOS Detection and Measurement is Incomplete.

EPA's Economic Assessment assumes no additional costs from detecting and measuring releases of PFOA and PFOS.[114] The basis for this assumption is "affected facilities are likely to incur such costs in the baseline to comply with reporting requirements related to the Toxics Release Inventory (TRI)."[115] This belief is misplaced. As EPA well knows, not all facilities are subject to TRI reporting. For example, drinking water and wastewater utilities are not subject to the TRI.[116]

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[112] *Id*. at 21.
[113] *See* CDM Smith, "Cost Analysis of the Impacts on Municipal Utilities and Biosolids Management to Address PFAS Contamination," October 2020, attached and available at: https://www.nacwa.org/docs/default-source/resources---public/cost-analysis-of-pfas-on-biosolids---final.pdf?sfvrsn=a4b3fe61_2.
[114] Economic Assessment, at 20.
[115] *Id.*
[116] *See* 40 C.F.R. § 372.23 (list of SIC and NAICs codes subject to the TRI, which does not include the codes for water, sewage, and other systems).

EPA also failed to consider any reporting cost impacts on small government municipal drinking water utilities because they are not identified as a potential major source of PFOA and PFAS releases.[117] This assumption fails to take into account EPA's regulations on reporting mixtures of hazardous substances and other media. Under EPA's regulations, "if the quantity of one or more of the hazardous constituent(s) of the mixture or solution is unknown, notification is required *where the total amount of the mixture* or solution released equals or exceeds the RQ for the hazardous constituent with the lowest RQ."[118] POTWs discharge millions of gallons per day of treated sewage. Drinking water plants distribute millions of gallons of treated drinking water. If PFOA and PFOS at any level is present in these flows and they are released to the environment, EPA regulations put the burden on the utilities to quantify the amount of PFOA and PFOS to avoid reporting the entire volume of a mixture. To avoid this, utilities would have to conduct testing to support estimates of those PFOA and PFOS levels. These will result in costs that uniquely impact small governmental entities and would require the expenditure of significant new costs which are nowhere accounted for in EPA's Economic Assessment.

PFOA and PFOS reporting obligation will require water utilities to incur costs to develop test methods and training, collect samples, and analyze samples. However, EPA has provided no guidance on how such releases should be estimated. For example, EPA should explain how to calculate amounts of PFOA and PFOS released from leaky pipes. EPA should explain how to calculate amounts of PFOA and PFOS in fugitive air emissions.[119] EPA should explain how to calculate amounts of PFOA and PFOS in nonpoint source runoff.

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[117] Economic Assessment at 14.
[118] 40 C.F.R. § 302.6(b)(1)(ii).
[119] It is telling that EPA has been unable to provide guidance on how to calculate emissions of hazardous air pollutants from animal waste and peer reviewers concluded that EPA's attempts to do so were relevant only to the farms at which EPA collected data. *See* EPA's National Air Emissions Monitory Study available at https://www.epa.gov/afos-air/national-air-emissions-monitoring-study and the SAB Review of Emissions-Estimating Methodologies for Broiler Animal Feeding Operations and for Lagoons and Basins at Swine and Dairy Animal Feeding Operations (Apr. 19, 2013), available at https://sab.epa.gov/ords/sab/f?p=100:18:19711175298246:::RP,18:P18_ID:2246#report and

Without this information, EPA is unable to provide an accurate analysis of costs imposed by this NPRM.

3. EPA Failed to Consider its Own Costs.

EPA's economic analysis also fails to consider the increase in EPA's own expenditures should it finalize the NPRM. While the agency may incur testing, methods development, disposal alternatives development costs even in the absence of a CERCLA listing rule. However, the expenditures of agency resources to meet its commitment to protect "inadvertent parties" from CERCLA liability will occur only if EPA finalizes a rule that drags "inadvertent parties" into the morass of CERCLA litigation. As EPA's and DOJ's Superfund enforcement staff are paid from the same appropriation as EPA's response staff, promulgating a rule that needlessly creates liability for "inadvertent parties" will divert resources away from cleanup.

The Office of Management and Budget should require EPA to calculate the costs it will incur to meet its commitment to provide liability protections not only for future budget formulation purposes but also to inform the public of the impacts on cleanup that will follow from the regulatory alternative EPA selects in this rulemaking.

## E. EPA's NPRM Fails to Comply with the RFA

EPA certifies that the NPRM "will not have a significant economic impact on a substantial number of small entities under the RFA" and considers impacts on only (1) producers and importers of PFOA and PFOS, (2) producers and users of PFOA or PFOS-containing articles, and (3) waste management and wastewater facilities.[120] This certification is not supported by the facts. As a result, EPA has not complied with the RFA, as amended by SBREFA.

attached. EPA has exempted these emissions from CERCLA reporting. 40 C.F.R. § 302.6(e)(3). While this rule was challenged in court. and EPA accepted a remand, the rule remains in effect.

[120] 87 Fed. Reg. at 54,440.

As demonstrated in AWWA's comments, to which this Legal Appendix is attached, the increased disposal costs for the drinking water sector alone will result in a significant impact on the 36,000 drinking water utilities that are small governmental entities. Further, as discussed above, given EPA's position that improved waste management resulting from the rule will be a direct benefit, the costs of that improved waste management must be considered a direct cost. If EPA corrects its economic analysis, as discussed above, it will be clear that this NPRM is subject to the RFA. Thus, EPA must perform an initial regulatory flexibility analysis that describes the objective of the rule, duplicative requirements, and significant regulatory alternatives (including exempting small entities using an alternative approach discussed above).[121] EPA also must work with the Small Business Administration's Office of Advocacy to convene a SBREFA panel to ensure appropriate public engagement concerning the impacts on small entities from this proposed rule.[122]

Following consideration of public comments, including comments received following the procedures in section 609 of the RFA, EPA must then consider those matters and provide an explanation for why EPA selected the alternative it finalizes, including why other alternatives were rejected.[123]

Small entities that are adversely affected by the final rule have the right to seek judicial review of EPA's compliance with section 604 or an agency's certification under section 605(b) that the rule will not have a significant economic impact on a substantial number of small entities.[124] The NPRM and its accompanying Economic Assessment are unlikely to withstand that judicial review.

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[121] *See* 5 U.S.C. § 603.
[122] *See* 5 U.S.C. § 609.
[123] *See* 5 U.S.C. § 604.
[124] *See* 5 U.S.C. § 611.

## F. EPA must perform a full Regulatory Impact Analysis to Fully Understand the Impacts of the NPRM

EPA must perform a full Regulatory Impact Analysis (RIA) for this economically significant rule. This analysis is necessary not only to help the agency meet the requirements of UMRA and the RFA and E.O. 12866, but also to help EPA understand the full ramifications of its proposed rulemaking.[125]

For example, following EPA's Guidelines, a full RIA would look at all the economic impacts of the NPRM. These include impacts on the nation's capacity for hazardous waste disposal capacity and impacts to Superfund cleanups.

If PFOA and PFOS are listed as CERCLA hazardous substances, a vast volume of PFAS waste will no longer be managed by municipal landfills or wastewater treatment plants. Yet, the hazardous waste management industry is small and concentrated in only a few companies.[126] EPA's reports only 61 operating hazardous waste landfills.[127] And only about 15 of those appear to be commercial landfills.

Given their finite capacity, it will be difficult for RCRA permitted facilities to manage the increased volume of waste. Yet, under CERCLA, if states are unable to provide assurances to EPA that RCRA permitted facilities in the state have the capacity to manage any offsite storage, destruction, treatment, or disposal, secure disposition of the hazardous substances from

[125] *See* Guidelines for Preparing Economic Analyses, at chapter 9.
[126] The Environmental Technology Council, the trade association that represents the commercial hazardous waste management industry, has only 9 members. *See* https://etc.org/about-etc/etc-member-companies/
[127] A printout of the number of operating Subtitle C landfills by state from EPA's RCRAInfo website is attached. The landing page is available at https://rcrapublic.epa.gov/rcrainfoweb/action/modules/pm/pmindex

Superfund remedial actions, EPA will not have the authority to expend Superfund dollars in that state.[128]

EPA must analyze these impacts on hazardous waste infrastructure and on Superfund cleanups.

EPA's position that no RIA is needed is not consistent with agency precedent. In 1985, EPA prepared a full Regulatory Impact Analysis for its rulemaking adjusting the reportable quantities of the original list of CERCLA hazardous substances, even though that rule was not considered a "major rule."[129] Unlike the Economic Assessment for this economically significant rule, EPA's 253 page 1985 RIA included chapters on need and consequences, alternatives, effects (including induced response actions), costs (including costs of response by private parties and EPA), benefits, resource availability, firm and macroeconomic effects, and savings and a sensitivity analysis. This document belies EPA's claims that induced effects (like increased litigation and response costs) are neither relevant nor quantifiable.

## IV. EPA Must Identify What Constitutes a Significant Danger and What Data Support EPA's Conclusion that PFOA and PFOS May Present a Significant Danger.

Section 102 of CERCLA gives EPA the authority to add to the list of hazardous substances after determining that a substance may present a substantial danger to the public health or welfare or the environment when released into the environment.[130] This authority is untested.

### A. EPA's Interpretation of Section 102 of CERCLA is Flawed

In the NPRM, EPA proposes to interpret the phrase "may present" to mean that "Congress did not require certainty that the substance presents a substantial danger or require proof of actual

[128] 42 U.S.C. § 9604(c)(3)(B) and (c)(9).
[129] Regulatory Impact Analysis of Reportable Quantity Adjustments Under Sections 102 and 103 of the Comprehensive Environmental Response, Compensation, and Liability Act, Mar. 1985 (EPA-HQ-OLEM-2019-0341-0052).
[130] 42 U.S.C. § 9602(a).

harm."[131] Having said what is *not* required, nowhere does EPA articulate what *is* required. EPA never identifies the threshold of potential risk it believes is "substantial." Instead, EPA points to prior determinations that PFOA and PFOS may have "adverse" effects.[132] The data referenced to support a finding of "adverse" effects (not substantial danger) show "associations" between PFOA and PFOS and such effects.[133] EPA identifies these associations as the basis for its determination that PFOA and PFOS may present a substantial danger:

> In sum, studies have shown that exposure to PFOA and PFOS is associated with numerous and varied adverse effects to human health. This evidence plays a major role in the EPA's proposal to designate PFOA and PFOS as hazardous substances.[134]

Without identifying what threshold of risk it considers to present a significant danger, EPA combines potential adverse effects with mobility, persistence, and prevalence, to conclude that:

> The adverse human health effects, mobility, persistence, prevalence, and other factors related to these PFAS combine to support EPA's proposed finding that PFOA and PFOS, when released into the environment may present substantial danger to the public health or welfare or the environment and, as a result, warrant designation as CERCLA hazardous substances.[135]

This finding is devoid of content. EPA is saying that because a "substantial danger" need not be certain, then *any level of risk* is sufficient to support listing a chemical as a CERCLA hazardous substance as long as it also is mobile, persistent, and prevalent. This interpretation reads the "substantial danger" standard out of the statute and leaves EPA with no intelligible principle to apply when making a listing decision.

In fact, under EPA's interpretation of section 102, it could list dihydrogen monoxide as a CERCLA hazardous substance. Far from merely being "associated" with "adverse" effects, dihydrogen monoxide is known to cause death if you breathe it or ingest too much and the mechanism for

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[131] 87 Fed. Reg. at 54,421.
[132] *Id.* at 54,424-26.
[133] *Id.* at 54,425,26.
[134] *Id.* at 54,426.
[135] *Id.* at 54,417.

these effects is well understood. Further dihydrogen monoxide is mobile, persistent, and prevalent. While it can be transformed, it can be neither created nor destroyed. Its chemical symbol is $H_2O$. It is, of course, water.

If EPA's statutory interpretation is correct, then section 102 of CERCLA is an unconstitutional delegation of legislative authority to EPA.[136] However, applying the statutory interpretation canon of "constitutional avoidance" no court would uphold EPA's interpretation.[137]

### B. Alternative Interpretations of the Phrase "Substantial Danger"

Contrary to EPA's interpretation of section 102, the phrase "substantial danger" is not standardless. In fact, EPA has already given it meaning under CERCLA and has given meaning to similar language in RCRA. Examining those precedents, it is clear that the term "substantial danger" must be based on scientific evidence that significant harm could result if exposure occurs and the term "may present" must be based on plausible exposure scenarios arising from PFOA and PFOS releases to the environment.

The phrase "substantial danger" is used in the CERCLA definition of "remedy." A "remedy" is an action that addresses hazardous substances "so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment."[138] The phrase also is used in section 105 of CERCLA, where Congress directs EPA to revise the National Contingency Plant (NCP) to include "methods for evaluating, including analyses of

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[136] *See, e.g., Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 472 (2001) (describing the nondelegation doctrine as a principle which prevents Congress from delegating its legislative powers to agencies unless Congress provides an "intelligible principle" to which the agency must conform).

[137] *See Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, 531 U.S. 159, 173 (2001) (where a construction of a statute would raise serious constitutional problems the Supreme Court will construe the statute to avoid such problems).

[138] 42 U.S.C. § 9601(24).

relative cost, and remedying any releases or threats of releases from facilities which pose substantial danger to the public health or the environment").[139]

As interpreted by EPA, a substantial danger is identified based on a risk assessment.[140] A risk assessment requires information on both toxicity and exposure.[141] When evaluating toxicity, EPA does not just consider adverse effects. It also considers the relationship between the magnitude of exposure and adverse effects and related uncertainties around those effects. This is a two-step process: hazard identification (including the nature and strength of evidence of causation) and a dose-response assessment.[142] The Superfund program typically relies on existing toxicity studies based on a hierarchy of what EPA considers best available science, with EPA's Integrated Risk Information System (IRIS) values at the top, followed by EPA's Provisional Peer Reviewed Toxicity Values, followed by other toxicity values, including those developed by other EPA offices and non-EPA sources.[143] EPA has no IRIS value for PFOA and PFOS. The data presented by EPA to support its PFOA and PFOS listing proposal would at best be at the bottom of the hierarchy of toxicity values that EPA uses in the Superfund program.

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[139] 42 U.S.C. § 9605(a)(1).

[140] *See* 40 C.F.R § 300.430(d)(1) (sites are characterized through a baseline risk assessment) and Risk Assessment Guidance for Superfund (RAGs) Part A, EPA/540/1-89/002 (Dec. 1989) (direction for developing base line risk assessment), at 1-6, available at https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part and attached.

[141] EPA considers risk to be the chance of harmful effects to human health or to ecological systems resulting from exposure to an environmental stressor. *See* EPA, About Risk Assessment, available at https://www.epa.gov/risk/about-risk-assessment#whatisrisk and attached. *See also* National Research Council 2009. Science and Decisions: Advancing Risk Assessment. Washington, DC: The National Academies Press, at 4 ("The four steps of risk assessment (hazard identification, dose-response assessment, exposure assessment, and risk characterization.") Available at https://nap.nationalacademies.org/catalog/12209/science-and-decisions-advancing-risk-assessment and attached.

[142] RAGs Part A, at 1-6.

[143] Human Health Toxicity Values in Superfund Risk Assessments, OSWER Directive 9285.7-53 (Dec. 5, 2003) available at https://www.epa.gov/sites/default/files/2015-11/documents/hhmemo.pdf and attached.

In the NPRM, EPA admits that its new, standardless, interpretation of the phrase "substantial danger" is not consistent with its past interpretations.[144] EPA waves its inconsistency away by claiming that the other uses of that phrase involve consideration of site-specific circumstances while in section 102 the term has broader applicability.[145] This characterization is flawed. As noted above, only the exposure half of a risk assessment involves site-specific circumstances. When examining toxicity, EPA uses generic toxicity values.

Under CERCLA the goal of a remedial action is to reduce exposure to a substance that presents a significant risk to acceptable levels:

(1) For systemic toxicants, acceptable exposure levels shall represent concentration levels to which the human population, including sensitive subgroups, may be exposed without adverse effect during a lifetime or part of a lifetime, incorporating an adequate margin of safety;
(2) For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between 10 -4 and 10 -6 using information on the relationship between dose and response. The 10 -6 risk level shall be used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at a site or multiple pathways of exposure….[146]

Thus, when taking action to reduce the "substantial danger" posed by a CERCLA hazardous substance, in the absence of regulatory standards, EPA seeks to eliminate exposure until the risk of cancer is lowered to between 1 in $10^{-4}$ and $10^{-6}$ and the risk of noncancer effects is reduced to a hazard quotient of 1.[147] If a substance does not present cancer risk level of at least $10^{-4}$ or noncancer risks that present a hazard quotient of at least 1 based on uncontrolled lifetime exposures, the Superfund program would not consider the substance to represent a substantial danger worthy of a response action. Yet, EPA's NPRM does not even acknowledge

[144] 87 Fed. Reg. at 54,421 n. 15.
[145] *Id.*
[146] 40 C.F.R. § 400.430(e)(2)(i)(A)(1) and (2).
[147] *Id.* and 36. Risk Assessment Guidance for Superfund (RAGs) Part B (Development of Preliminary Risk-Based Remediation Goals), Pub. 9285.7.01B (Dec. 1991) at 19, available at https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-b and attached.

this fact much less discuss how data on the effects of PFOA and PFOS exposure demonstrate that these chemicals meet this threshold of risk, assuming uncontrolled lifetime exposures.

If EPA no longer believes that its long-standing CERCLA risk thresholds are relevant to an interpretation of whether a substance may present a substantial danger to public health, it must explain the explain the reasons for its change of position.[148]

EPA also has set precedents interpreting similar authorities under RCRA. For example, a RCRA hazardous waste listing also is based on both toxicity and exposure. Under 40 C.F.R. § 261.11(a)(3), a chemical may be added to the list of hazardous constituents if it has been shown in scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects on humans or other life forms. But the presence of hazardous constituents alone is not sufficient to support a hazardous waste listing. EPA also must evaluate 11 factors. Of these 11 factors, seven evaluate the existence of a risk (constituent toxicity, concentration, waste quantity, migration potential, persistence, degradation product potential, and bioaccumulation potential). The other four factors (plausible management, damage cases, coverage of other regulatory programs, and other factors as may be appropriate) evaluate the overall circumstances that may lead to a conclusion that a risk is or is not substantial.[149] After considering those factors, EPA must make a determination that "the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed."[150] As articulated by EPA:

> Currently, risk levels (including carcinogen risk, non-carcinogen risk as determined by hazard quotient (HQ), and ecological risk) provide one of the principal bases for a listing determination. However, risk levels themselves do not represent the sole basis for a listing. Other factors generally are weighed in making a listing decision. The Agency's listing decision policy uses a "weight-of-evidence" approach in which calculated risk

[148] When an agency changes its policy, it must acknowledge the change and "show that there are good reasons for the new policy." *FCC v. Fox Television Stations*, 129 S. Ct. 1800, 1811 (2009). Courts should not defer to shifting agency interpretations of statutes.
[149] 40 C.F.R. § 261.11(a)(3); 59 Fed. Reg. 66,072, 66,074 (Dec. 22, 1994).
[150] 40 C.F.R. § 261.11(a)(3).

> information is a key factor. Available risk values are assessed with all other data available to determine whether a waste is or is not a hazardous waste.[151]

For example, even where there is evidence that a chemical may cause cancer in a rodent, EPA must also examine whether the mechanism causing cancer in rodents exists in humans. In 2010, EPA delisted saccharin from the list of hazardous wastes based on a determination that rat studies did not support a finding that saccharin is reasonably anticipated to be a human carcinogen because the tumors in rats arose by mechanisms not found in humans and due to lack of epidemiological data.[152]

In contrast, in this NPRM EPA fails to identify a threshold risk level that may, assuming exposure, present a substantial danger. It also fails to identify which studies the agency believes are evidence of a substantial danger. Absent this information, the public cannot meaningfully comment on EPA's determination. In a supplemental proposal EPA should clearly identify both the threshold of risk it considers substantial and which studies EPA believes are evidence that PFOA and PFOS present such a risk.

**Conclusion**

For all of the forgoing reasons, EPA's proposal to list PFOA and PFOS as CERCLA hazardous substances is deeply flawed. It cannot be finalized based on the current record, which is too meagre to allow the public to meaningfully comment on EPA's determinations. If EPA intends to proceed, it must issue a supplemental proposal with the additional information identified herein.

[151] 59 Fed. Reg. at 66074 (emphasis added).
[152] 75 Fed. Reg. 78,918, 78,921 (Dec. 17, 2010) (delisting saccharin from the list of hazardous waste commercial chemical products).

**LIST OF ATTACHMENTS**

1. Press Release, EPA Proposes Designating Certain PFAS Chemicals as Hazardous Substances Under Superfund to Protect People's Health (Aug. 26, 2022).
2. Congressional Budget Office, Cost Estimate, Senate Amendment to H.R. 3684, the Infrastructure Investment and Jobs Act (rev. Aug. 9, 2201); Congressional Budget Office, Estimated Budgetary Effects of H.R. 5376, the Inflation Reduction Act of 2022 (rev. Aug. 5, 2022).
3. H. McBeth, ed., Looking Back to More Forward: Resolving Health & Environmental Crises, Chapter 6: Superfund at 40: Unfilled Expectations.
4. Addressing PFOA and PFOS in the Environment: Potential Future Regulation Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act, Advance Notice of Proposed Rulemaking, Jan. 14, 2021.
5. "Superfund Litigation Has Decreased and EPA Needs Better Information on Site Cleanup and Cost Issues to Estimate Future Program Funding Requirements," GAO-09-656 (July 2009).
6. EPA, Enforcement Discretion Guidance Regarding Statutory Criteria for Those Who May Qualify as CERCLA Bona Fide Prospective Purchasers, Contiguous Property Owners, or Innocent Landowners ("Common Elements") (Jul. 29, 2019).
7. Steinzor, R and Kolker, D, "Superfund Liability dumped onto local governments," Government Finance Review, Aug. 1, 1993.
8. Third-Party Complaint*, NJ DEP, et. al v. Occidental Chem. Corp., et al*, Superior Ct N.J., docket no. ESX-L-9868-05 (Feb. 4, 2009).
9. CERCLA Compliance with Other Laws Manual, EPA/540/G-89/006 (Aug. 1988).
10. Derrick Salvatore, Kira Mok, Kimberly K. Garrett, Grace Poudrier, Phil Brown, Linda S. Birnbaum, Gretta Goldenman, Mark F. Miller, Sharyle Patton, Maddy Poehlein, Julia Varshavsky, and Alissa Cordner, "Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources, Environmental Science & Technology Letters."
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12. EPA, Bona Fide Prospective Purchasers and the New Amendments to CERCLA (May 31, 2002).
13. Superfund, Information on the Program's Funding and Status, at 11, GAO/RCED-00-25 (Oct. 1999).
14. Private-Sector Expenditures and Transaction Costs at 18 Superfund Sites," Paper Number EE-0265, Rand (1993).
15. Listing of PFOA, PFAS, PFBS, and GenX as Resource Conservation and Recovery Act (RCRA) Hazardous Constituents, EPA/OLEM, RIN: 2050-AH26.
16. Press Release, EPA Responds to New Mexico Governor and Acts to Address PFAS Under Hazardous Waste Law (Oct. 26, 2021).
17. Guidelines for Preparing Economic Analyses, National Center for Environmental Economics, Office of Policy, U.S. Environmental Protection Agency (Dec. 17, 2010)
18. OMB, Regulatory Impact Analysis, A Primer.

19. EPA, Office of Solid Waste and Emergency Response, Cleaning Up the Nation's Waste Sites: Markets and Technology Trends: 2004 Edition (EPA 542-R-04-015).
20. EPA, Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances (Dec. 18, 2020).
21. U.S. Chamber of Commerce, PFOS and PFOA Private Cleanup Costs at Non-Federal Superfund Sites (June 8, 2022).
22. Per- and Polyfluoroalkyl Substances Cleanup Costs, Office of the Under Secretary of Defense for Acquisition and Sustainment, July 2021.
23. GAO, Firefighting Foam Chemicals, DOD Is Investigating PFAS and Responding to Contamination, but Should Report More Cost Information, GAO-21-421 (June 2021).
24. "Interagency Group Weighing PFAS Liability Issues For Airport Use of AFFF," Inside PFAS Policy, Sept. 28, 2022.
25. Status of Notifications to Agricultural Operations Pursuant to Section 335 of the Fiscal Year 2021 National Defense Authorization Act, Office of the Under Secretary of Defense for Acquisition and Sustainment, July 2021.
26. FAA, Part 139 Airport Certification Status List.
27. Statement of Peter F. Guerrero, Director, Environmental Protection Issues, Resources, Community, and Economic Development Division, General Accounting Office, Before the Committee on Agriculture, House of Representatives, June 28, 2000.
28. Drinking Water Needs Survey and Assessment, Sixth Report to Congress, Office of Water (4606M), EPA 816-K-17-002 (Mar. 2018).
29. EPA, Water Audits and Water Loss Control For Public Water Systems, EPA 816-F-13-002 (Office of Water 4604M), July 2013.
30. EPA, Clean Watersheds Needs Survey 2012, Report to Congress, EPA-830-R-5005 (Jan. 2016).
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38. Risk Assessment Guidance for Superfund (RAGs) Part B (Development of Preliminary Risk-Based Remediation Goals), Pub. 9285.7.01B (Dec. 1991).

# Appendix B

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