

## EPA Plan Changes PFAS Outlook For Companies, Regulators

By **Fabio Dworschak, Lauren Shah and Maria Pimienta**

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On Oct. 18, the U.S. Environmental Protection Agency released its much-anticipated plan, nearly a year in the making, to address per- and poly-fluoroalkyl substances in the environment. The EPA's PFAS Strategic Roadmap provides a detailed framework of actions the agency commits to taking over the next three years to confront PFAS contamination across the country.[1]

Although the strategy lays out actionable steps for the EPA, all are still working their way toward implementation. The plan thus provides planned actions that, if fully implemented, will transform the regulatory landscape around PFAS.

This change will resonate throughout the country, affecting regulated industries and regulators alike. For example, states that have not set PFAS standards, or those that have set standards that turn out to be less stringent than the forthcoming regulations, will be forced to comply with the new regulatory requirements that will be binding in their jurisdictions.

The EPA's new framework is the key feature of the Biden administration's interagency plan to combat PFAS pollution.[2] The EPA's earlier PFAS Action Plan, released in 2019, is the building block for the agency's new Strategic Roadmap, which accelerates many of the actions in the 2019 plan and commits to bold and durable new policies.[3]

The strategy commits five offices within the EPA to over 30 different actions over the next three years.[4] These wide-ranging actions span across the EPA's regulatory purview, and include planned actions under the Safe Drinking Water Act; the Comprehensive, Environmental Response, Compensation and Liability Act, or CERCLA, also known as the Superfund law; the Toxic Substances Control Act; the Clean Water Act; and the Clean Air Act.

After the EPA issued its strategy, the agency committed to two additional actions under the Resource Conservation and Recovery Act.[5] First, the EPA will initiate the rulemaking process to add perfluorooctanoic acid, or PFOA; perfluorooctane sulfonate, or PFOS; perfluorobutane sulfonic acid; and GenX as hazardous constituents under Title 40 of the Code of Federal Regulations, Part 261, Appendix VIII.[6]



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Second, the agency will begin the rulemaking process to clarify that "the RCRA Corrective Action Program has the authority to require investigation and cleanup for wastes that meet the statutory definition of hazardous waste," including emerging contaminants such as PFAS.[7]

PFAS, also known as "forever chemicals," are a group of harmful human-made chemicals, comprising thousands of different compounds, that the EPA describes as "an urgent public health and environmental issue facing communities across the United States." [8] The two most studied PFAS are PFOA and PFOS.[9]

Sources of PFAS include facilities where PFAS is manufactured or used in the manufacturing process; household products, e.g., stain-resistant carpet and furniture; waterproof outdoor gear; food packaging; cosmetics; and firefighting foam used to combat aviation and petrochemical fires.

PFAS are so ubiquitous today that they can be found in surface water, groundwater, soil and air, in rural areas and densely-populated cities alike.[10] PFAS are also found in the blood of most people in the U.S.,[11] and even show up in breast milk.[12]

As the EPA released its new strategy, the Biden administration simultaneously announced an interagency plan for addressing PFAS.[13]

### **The Biden Administration's Plan**

The newly formed Interagency Policy Committee on PFAS, under the leadership of White House Council on Environmental Quality Chair Brenda Mallory, will coordinate efforts and help develop "new policy strategies to support research, remediation, and removal of PFAS in communities across the country." [14] The plan identifies several actions underway by the participating agencies:

- The U.S. Department of Defense is conducting cleanup assessments at nearly 700 facilities where PFAS may have been used.[15] These assessments are due by the end of 2023.[16]
- The U.S. Food and Drug Administration continues to expand its testing of the food supply to guide its work on estimating dietary exposure to PFAS from food.[17] Testing results from the general food supply and certain seafood are due in the coming months.[18]
- The U.S. Department of Agriculture is researching the causes and implications of PFAS in the food system, and taking action to prevent and address contamination.[19]
- The U.S. Department of Homeland Security conducted a PFAS inventory of its facilities, including assessing use of firefighting foams, and established procedures for investigating and responding to possible contamination.[20] The Federal Emergency Management Agency, a part of DHS, is addressing PFAS use in firefighting foams and protective gear, funding research on mitigating PFAS exposure from training with and using these foams, and funding research on firefighter exposure to PFAS and the resulting impacts.[21]
- The U.S. Department of Health and Human Services continues to review the science regarding PFAS' impact on human health, including through a study, conducted by the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry, that is underway in eight states to assess health impacts from PFAS exposure.[22]

- The Federal Aviation Administration is working on reducing PFAS discharges that occur during the testing of PFAS-containing firefighting foams. The FAA and DOD are also working to find an effective PFAS-free firefighting foam.

The plan spans the executive branch, while the Strategic Roadmap narrows in on the agency leading the charge to combat PFAS contamination, the EPA.

### **The EPA's New Approach**

The EPA strategy takes a life cycle approach to addressing PFAS, as these chemicals are released into the environment at several stages of their life cycle — e.g., manufacturing, processing, using and disposing/landfilling.[23]

With this cycle in mind, the strategy addresses remediating contaminated areas and minimizing downstream harms, as well as restricting new PFAS contamination from entering the environment via air emissions, deposition onto land, leaching into groundwater or direct discharges to surface water.[24]

Addressing PFAS early in their life cycle, a foundational element of the strategy, will affect six to eight chemical manufacturing facilities that currently produce PFAS feedstock, and several industries that discharge PFAS, including producers or processors of PFAS, airports, landfills, metal finishing and manufacturers of pulp and paper, textile, and carpet.[25]

Some of these industries are likely implicated at several different stages of the life cycle, and will be subjected to various regulations in the strategy — e.g., landfills as PFAS discharge sites, and as contaminated properties.

Addressing PFAS toward the end of their life cycle inevitably leads to situations where the contamination may pose a significant threat to human health or to the environment.[26] When such situations arise, the EPA has vowed to "hold polluters and other responsible parties accountable for their actions, ensuring that they assume responsibility for remediation efforts and prevent any future releases." [27]

As the EPA emphasized, "enforcement is back at the EPA." [28] This commitment to holding polluters accountable, if implemented, stands in contrast to the Trump administration's deemphasis on environmental enforcement.[29] Further, if implemented, the designation of certain PFAS as hazardous substances under CERCLA will provide the EPA with a new tool to address PFAS contamination.

The agency's strategy also focuses on advancing scientific research, to fill the gaps in the current understanding of PFAS, and to drive future decision making.[30] Although the EPA acknowledges that "the current body of scientific evidence clearly indicates that there are real, present, and significant hazards associated with specific PFAS," it correctly notes that some uncertainty remains.[31]

The strategy seeks to remedy the knowledge gap, by researching the exposure pathways, toxicity and health impacts of less-studied PFAS, like GenX and perfluorononanoic acid, and ways to permanently destroy or dispose of PFAS.[32] Notably, as this has been a matter of great speculation, the EPA is looking for approaches to addressing PFAS as groups, not just as individual chemicals, by researching ways to "address multiple [PFAS] chemicals at once." [33]

The strategy also delivers on the Biden administration's — and the EPA's — commitment to advance

environmental justice. It calls for research to determine how historically vulnerable communities are impacted by PFAS, and cautions that the remediation and destruction of PFAS should not bear a heavy burden on these communities.[34]

Based on this, the EPA will be wary of sending PFAS-laden pollution to landfills located in environmental justice communities, as they will bear the brunt of any further contamination. It remains to be seen, however, whether science has the answer to eliminating PFAS and distributing any further impacts on equal footing.

### **The Strategic Roadmap's Key Actions**

As detailed in the chart below, the EPA strategy contains numerous actions to tackle PFAS contamination. Among these actions, the following stand out as key features.

#### ***Using CERCLA to Address PFAS***

The big-ticket item is the proposed designation of PFOS and PFOA as CERCLA hazardous substances. The proposed rule is due in a few months, in the spring of 2022, with a final rule expected over a year later, in the summer of 2023.

CERCLA designation will expose a whole host of potentially responsible parties — current and former owners and operators of PFAS-contaminated facilities; generators and arrangers of PFAS disposal, treatment or transportation; and transporters that take PFAS to a site of their choosing for disposal or treatment — to liability for cleaning up PFAS-contaminated sites.[35] PFAS manufacturers, military installations, airports, water treatment facilities and landfills are just a few of the entities that may be subject to liability under CERCLA.

The proposal to designate PFOS and PFOA is just the first step. The EPA plans to issue, in the spring of 2022, an advance notice of proposed rulemaking to seek input on whether it should designate other PFAS.[36]

The EPA does not identify which other PFAS it will consider,[37] but, based on the strategy's other actions, it will likely consider GenX, perfluorobutane sulfonic acid, perfluorobutyrate, perfluorohexanoic acid, perfluorohexane sulfonate, perfluorononanoic acid and perfluorodecanoic acid.[38] As the EPA moves to designate more PFAS as hazardous substances under CERCLA, the liability spectrum will become more ubiquitous, much like "the ubiquity of [PFAS] uses." [39]

#### ***Developing Regulations for PFOS and PFOA Under the Safe Drinking Water Act***

The process to establish a national primary drinking water regulation for PFOS and PFOA began in the Trump administration, and has accelerated in the Biden administration. The EPA expects to issue a proposed regulation by the fall of 2022 — beating its March 2023 deadline — and a final rule a year later, in the fall of 2023.[40]

All signs point to a drinking water standard for PFOS and PFOA at a level lower than the EPA's current 70 parts per trillion health advisory number. For example, in the GenX Human Health Toxicity Assessment for GenX Chemicals, issued on Oct. 25, the EPA set a chronic oral reference dose for GenX chemicals at 0.000003 milligrams per kilogram per day, which is an order of magnitude lower than the current 0.00002 mg/kg/day reference dosage for PFOS and PFOA.[41]

Additionally, in that assessment, the EPA signaled that it is currently reevaluating the toxicity information for PFOA and PFOS[42] — meaning that if it revises the current reference dosage for PFOS and PFOA to a number closer to the GenX dosage, the 70 parts per trillion number will also be revised down.

The EPA also plans to evaluate additional PFAS and consider "regulatory actions to address groups of PFAS." [43] Once the regulation for PFOS and PFOA is issued, it will have effects throughout the country, especially in states that do not have drinking water regulations for these chemicals, as water providers and regulators will have to grapple with ensuring drinking water supplies meet the new standard.

### ***Restricting and Monitoring PFAS Discharges Under the Clean Water Act***

The EPA's framework lays out a four-tiered approach to study and, possibly, issue effluent limitation guidelines for at least 10 categories of industrial dischargers.[44] It commits the agency to rulemaking for three categories: organic chemicals, plastics and synthetic fibers; metal finishing; and electroplating.[45]

The proposed rule for organic chemicals, plastics and synthetic fibers is expected in the summer of 2023. The proposed rule for the latter two is expected in the summer of 2024.[46]

The strategy also details the EPA's commitment to use its National Pollutant Discharge Elimination System authority to reduce discharges of PFAS at the source, and obtain information by monitoring of PFAS sources.[47]

In federally issued NPDES permits, the EPA will propose, by the winter of 2022, monitoring requirements for facilities where PFAS discharges are expected or suspected, and, if appropriate, "conditions based on product elimination and substitution when a reasonable alternative to using PFAS is available in the industrial process" and "require pretreatment programs to ... protect wastewater treatment plant discharges and biosolid applications." [48] The EPA will also provide guidance to states.[49]

Collectively, these actions will likely reduce PFAS contamination, while increasing costs for the regulated entities. These actions will also provide additional information that the EPA and states can use to consider future regulatory action.

### **Conclusion**

In the end, the Strategic Roadmap is just that — a blueprint for future construction. It is detailed, and includes specific intraagency assignments that will support the comprehensive approach to addressing PFAS contamination that the Biden administration has set out to achieve.

However, the loose deadlines — defined by quarter rather than a specific date — and the lack of mechanisms for enforcing the plan, or preventing changes to it, show a recognition that the EPA may not be able to meet all its deadlines or implement all the listed actions.

Whether this strategy will change actions currently underway by regulated industries, state regulators and communities that are experiencing the effects of PFAS contamination remains to be seen. Nevertheless, it is a significant step toward addressing the challenges PFAS present.

A detailed chart including all of the framework's proposed actions with brief descriptions and deadlines follows below.

<b>PFAS Strategic Roadmap 2021-2024</b>		
<b>Agency Action</b>	<b>Description</b>	<b>Expected Deadline</b>
<b>Office of Chemical Safety and Pollution Prevention</b>		
Publish a national PFAS testing strategy	<ul style="list-style-type: none"> <li>· Fill data gaps to improve understanding of PFAS impacts.</li> <li>· Require manufacturers to disclose toxicity data.</li> <li>· Categorize PFAS into groups.</li> <li>· Select PFAS that will require testing under TSCA.</li> </ul>	Fall 2021
Designate PFAS as "Chemicals of Special Concern" under the TRI	<ul style="list-style-type: none"> <li>· Expand industry reporting requirements.</li> <li>· Eliminate reporting exemptions.</li> <li>· Update the list of PFAS subject to TRI reporting.</li> </ul>	Spring 2022 (proposed rule)
Review new and previous PFAS decisions through the TSCA New Chemicals program	<ul style="list-style-type: none"> <li>· Identify and mitigate potential risks of new PFAS before they enter the market.</li> <li>· Address past PFAS decisions that fail to protect human health and the environment.</li> <li>· Require prior EPA approval for a "significant new use" of PFAS, including abandoned PFAS uses.</li> </ul>	Ongoing and Summer 2022
Finalize new PFAS reporting under TSCA	<ul style="list-style-type: none"> <li>· Require reporting on "uses, production volumes, disposal, exposures, and hazards" of PFAS manufactured since 2011.</li> </ul>	Winter 2022
<b>Office of Water</b>		
Finalize UCMR 5	<ul style="list-style-type: none"> <li>· Monitor and research 29 types of PFAS in public water systems.</li> </ul>	Fall 2021 (final rule)
Publish toxicity assessments	<ul style="list-style-type: none"> <li>· Publish toxicity assessments of two GenX and five PFAS chemicals — PFBS, HFPO-DA, PFBA, PFHxS, PFHxA, PFDA and PFNA.</li> </ul>	Ongoing and Fall 2021
Publish health advisories for GenX and other PFAS	<ul style="list-style-type: none"> <li>· Set health advisory levels for GenX and PFBS to assist co-regulators in informing the public and addressing health impacts.</li> </ul>	Spring 2022

Set ELG for PFAS wastewater discharges from industrial facilities	<ul style="list-style-type: none"> <li>· Regulate PFAS discharges in wastewater from five industries: organic chemicals, plastics, and synthetic fibers, metal finishing, and electroplating.</li> <li>· Advance research on PFAS discharges in wastewater from four sectors: electrical and electronic components, textile mills, and landfills.</li> <li>· Initiate review on PFAS discharges in wastewater from three areas: leather tanning and finishing, plastics molding and forming, and paint formulating.</li> <li>· Monitor PFAS discharges from facilities phasing out PFAS use, including pulp and paper, paperboard, and airports.</li> </ul>	2022 and ongoing
Monitor fish tissue for PFAS	<ul style="list-style-type: none"> <li>· Research the severity of contamination in lakes.</li> <li>· Identify exposure pathways.</li> <li>· Guide state and tribal fish advisory programs.</li> </ul>	<p>Summer 2022 (monitoring)</p> <p>Spring 2023 (fish advisories)</p>
Regulate PFOS and PFOA in drinking water	<ul style="list-style-type: none"> <li>· Develop national drinking water standards for PFOA and PFAS under the SDWA.</li> </ul>	<p>Fall 2022 (proposed rule)</p> <p>Fall 2023 (final rule)</p>
Publish and update PFAS analytical methods	<ul style="list-style-type: none"> <li>· Validate the use of the proposed laboratory method to test for PFAS in wastewater, surface water, groundwater and soils ("Method 1633") and promulgate the method under the CWA.</li> <li>· Update Methods 533 and 537.1 for monitoring PFAS in drinking water.</li> </ul>	<p>Fall 2022 (Method 1633)</p> <p>Fall 2024 (Methods 533 and 537.1)</p>
Address PFAS in NPDES Permits	<ul style="list-style-type: none"> <li>· Reduce PFAS in point-source water discharges from facilities with federal or state-issued NPDES permits by recommending monitoring requirements using Method 1633.</li> </ul>	Winter 2022
Finalize ambient water quality criteria for PFAS	<ul style="list-style-type: none"> <li>· Develop "national recommended ambient water quality criteria for PFAS" to support co-regulators in setting water quality standards.</li> </ul>	<p>Winter 2022 (aquatic life)</p> <p>Fall 2024 (human health)</p>

Finalize risk assessment for PFOA and PFOS in biosolids	· Analyze the potential harm of PFOA and PFAS exposure to determine whether future regulation is necessary.	Winter 2024
<b>Office of Land and Emergency Management</b>		
Designate PFOA and PFOS as CERCLA hazardous substances	· Designate PFOS and PFOA as hazardous substances.	Spring 2022 (proposed rule) Summer 2023 (final rule)
Issue ANPRM on other types of PFAS under CERCLA	· Seek public input on designating other types of PFAS as hazardous substances under CERCLA.	Spring 2022
Update guidance on destroying/disposing of PFAS	· Update guidance on destroying and disposing of PFAS and PFAS-containing materials to reflect public comments and new research data.	Fall 2023
<b>Office of Air and Radiation</b>		
Build the technical foundation to address PFAS air emissions	· Identify sources of PFAS air emissions, measuring stack emissions and ambient concentrations of PFAS. · Assess potential designation of PFAS as hazardous air pollutants under the CAA.	Fall 2022 and ongoing
<b>Office of Research and Development</b>		
Develop methods to detect and measure PFAS	· Develop additional targeted and non-targeted methods for detecting known and identifying unknown PFAS.	Ongoing
Enhance research on PFAS risks	· Conduct toxicity testing on PFAS to help establish "PFAS categories for hazard assessment." · Identify PFAS exposure pathways. · Evaluate impacts on different communities, particularly communities with environmental justice concerns.	Ongoing
Enhance technologies for reducing PFAS	· "Inform decisions on drinking water and wastewater treatment, contaminated site cleanup and remediation, air emission	Ongoing

	controls, and end-of-life material management." · Ensure that the use of technology and treatment approaches are not contributing to PFAS contamination.	
<b>Cross-Program</b>		
Communicate with affected communities	· Learn how PFAS has impacted affected communities. · Educate communities about the effects of PFAS. · Use information to implement actions in strategy, identify near-term actions to reduce potential health risks, and expand communication efforts with the communities.	Fall 2021 and ongoing
Use enforcement tools to address past and ongoing PFAS releases	· Use RCRA, TSCA, CWA, SDWA and CERCLA to address PFAS releases. · Improve understanding of the PFAS contamination and its impact. · Establish a voluntary stewardship program.	Ongoing and Spring 2022 (stewardship program)
Publish an annual progress report	· Increase transparency and accountability by publishing an annual report on EPA's progress.	Winter 2022 and ongoing

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[1] EPA Administrator Regan Announces Comprehensive National Strategy to Confront PFAS Pollution (Oct. 18, 2021), <https://www.epa.gov/newsreleases/epa-administrator-regan-announces-comprehensive-national-strategy-confront-pfas>.

[2] Press release, White House, Fact Sheet: Biden-Harris Administration Launches Plan to Combat PFAS Pollution (Oct. 18, 2021).

[3] Roadmap at 5.

[4] *Id.* at 10–21.

[5] Administrator Regan Letter to Governor Michelle Grisham (Oct. 26, 2021), [https://www.epa.gov/system/files/documents/2021-10/oct\\_2021\\_response\\_to\\_nm\\_governor\\_pfas\\_petition.pdf](https://www.epa.gov/system/files/documents/2021-10/oct_2021_response_to_nm_governor_pfas_petition.pdf).

[6] Id.

[7] Id.

[8] U.S. EPA, PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024, 5 (2021) ("Roadmap").

[9] Our Current Understanding of the Health and Environmental Risks of PFAS, U.S. EPA (last visited Oct. 21, 2021), <https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>.

[10] Roadmap at 5.

[11] PFAS in the U.S. Population, ASTDR (last visited Oct. 21, 2021), <https://www.atsdr.cdc.gov/pfas/health-effects/us-population.html>.

[12] Guomao Zheng et al, Abstract, Per- and Polyfluoroalkyl Substances (PFAS) in Breast Milk: Concentrating Trends for Current-Use PFAS, ENVTL. SCI. TECH. (2021), <https://pubs.acs.org/doi/abs/10.1021/acs.est.0c06978>.

[13] Press release, White House, Fact Sheet: Biden-Harris Administration Launches Plan to Combat PFAS Pollution (Oct. 18, 2021).

[14] Id.

[15] Id.

[16] Id.

[17] Id.

[18] Id.

[19] Id.

[20] Id.

[21] Id.

[22] Id.

[23] Id. at 6.

[24] Id.

[25] Id. at 6 fn. i, 7 fn. ii, iii.

[26] Id. at 7.

[27] Id.

[28] Evaluating the Federal Response to the Persistence and Impacts of PFAS Chemicals on our Environment Before the S. Comm. On Env'tl. and Public Works, 117th Cong. (2021) (statement of Assistant Administrator Radhika Fox at 1:55:59).

[29] New EPA Enforcement Data Show Continued Downward Trend During Trump Administration, Env'tl. Integrity Project (Jan. 14, 2021), <https://environmentalintegrity.org/news/epa-enforcement-data-downward-trend-during-trump-administration/>.

[30] Roadmap at 7.

[31] Id.

[32] Id.

[33] Id.

[34] Id. at 8

[35] See 42 U.S.C. § 9607(a).

[36] Roadmap at 17.

[37] Id.

[38] Id. at 13, 19.

[39] Id. at 7.

[40] Id. at 12–13.

[41] EPA, Fact Sheet: Human Health Toxicity Assessment for GenX Chemicals (Oct. 25, 2021).

[42] Id.

[43] Roadmap. at 13.

[44] Id. at 13–14.

[45] Id.

[46] Id.

[47] Id.

[48] Id.

[49] Id.