

Navigating the Complexity and Cost Risk of EPA's PFAS Roadmap

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EXECUTIVE SUMMARY

Preparing for the Future Now



James Hogan
President & CEO

It's time for organizations to start solidifying their plan for addressing per- and poly-fluoroalkyl substances (PFAS) within their operations. 2021 brought a multitude of changes regarding these dangerous “forever chemicals,” including the first Environmental Protection Agency (EPA) whole-of-agency action plan for restricting and regulating PFAS usage and emissions, called the PFAS Strategic Roadmap. Unveiled in October 2021, the roadmap fills a critical gap in federal

PFAS oversight—providing a floor of federal-level protections and support for states' ongoing efforts to address these dangerous chemicals.

Although production and usage of PFAS has declined in recent years, the chemical substances have built up in the air, soil, and water resources over several decades—impacting the drinking water supply for more than 200 million Americans according to the Environmental Working Group.

This strategic roadmap gives us a better idea of what will be regulated and, for the first time, a clearer picture of when we can expect to see those regulations, which are expected to impact manufacturers and users of PFAS materials, downstream distributors, and utilities, among others.

The PFAS Strategic Roadmap outlines EPA regulations which are expected to roll out quarterly over the next three years, in hopes of achieving four critical end goals:

1

Requiring PFAS tracking in municipal water systems under the Safe Drinking Water Act (SDWA)

2

Including PFAS as a hazardous substance under the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA)

3

Identifying PFAS emissions sources and evaluating whether individual PFAS should be considered a Hazardous Air Pollutant (HAP)

4

Expanding disclosure of PFAS reporting under the Toxic Substances Control Act (TSCA)

These changes are already happening, with the EPA issuing the first round of testing orders in late 2021. Professional environmental consulting support and guidance is the only way forward—taking control of your potential environmental liability, mitigating risk, and preparing your operation for a more environmentally-sound and regulatory-compliant future.

PFAS Overview

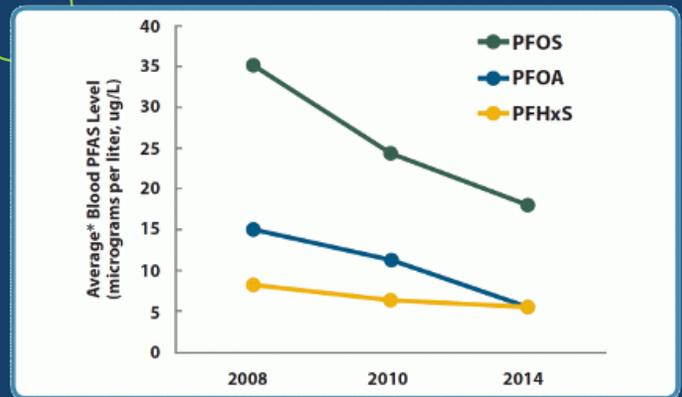
Per- and poly-fluoroalkyl substances (PFAS) are dangerous synthetic chemicals that pose a significant threat to human health, wildlife, and the environment. Because they take an extraordinary amount of time to break down, bioaccumulation of these substances has become a widespread global problem.

PFAS first appeared in products in the 1940s and grew in popularity over the next several decades due to their carbon fluorine bond that provides waterproofing protection and non-stick surface coating. There are now more than 4,700 known PFAS substances in the environment, with perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) among the most used—often found in items such as clothing, food packaging, electronics, and firefighting foam. Eliminating these chemicals from manufacturing

processes is the subsequent goal of the EPA's PFAS Strategic Roadmap, which calls for reducing PFAS usage in manufacturing and industrial facilities, landfills, and wastewater treatment plants.

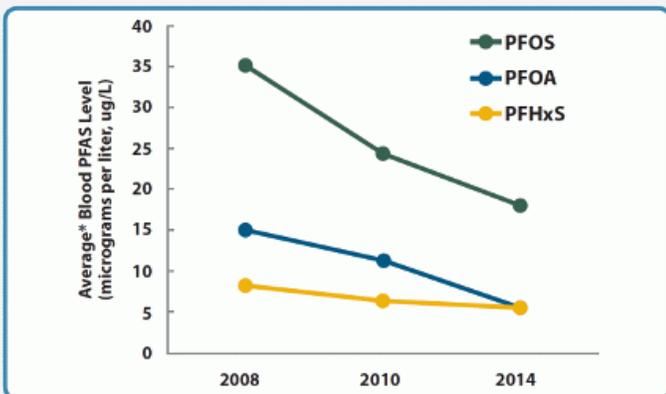
Efforts to reduce PFAS emissions, specifically PFOA and PFOS production and use within manufacturing operations, have proven successful in the past, but only with proper remediation efforts and guidance—as noted in one 2014 EPA and Minnesota Department of Health study*.

Average Blood Level of Some PFAS after Installing a Water Filtration System



**Data Source: Minnesota Department of Health, Environmental Tracking and Biomonitoring*

Average Blood Level of Some PFAS after Installing a Water Filtration System



**Data Source: Centers for Disease Control and Prevention*

In the United States, PFOS and PFOA production has been steadily declining since 2002. One Centers for Disease Control and Prevention (CDC) study conducted between 2002 and 2014 showed PFOS blood levels had decreased 80% during that time and PFOA blood levels by 60%.* However, as those specific PFAS have been phased out, others have been introduced, creating a cyclical problem that poses unique challenges.

PFAS STRATEGIC ROADMAP

Research, Restrict, and Remediate

The EPA's PFAS Strategic Roadmap provides an overview of expected proposed rules for regulating PFAS through 2024, and each phase of the plan will inform the next, helping guide future proposed rules. The roadmap is one piece of a much larger framework intended to eventually eliminate these “forever chemicals” and other public health hazards from the environment.

The PFAS Strategic Roadmap is an integrated, trilateral approach to addressing this long-standing global problem.

Research

Invest in research, development, and innovation that generates greater understanding of PFAS toxicities, human health risk, ecological impact, and helps develop effective science-based intervention methods



Restrict

Pursue a comprehensive approach to prevent PFAS from entering air, land, or water at levels that may have adverse impacts to human health or the environment



Remediate

Broaden and accelerate cleanup of PFAS contamination to protect human health and ecological systems



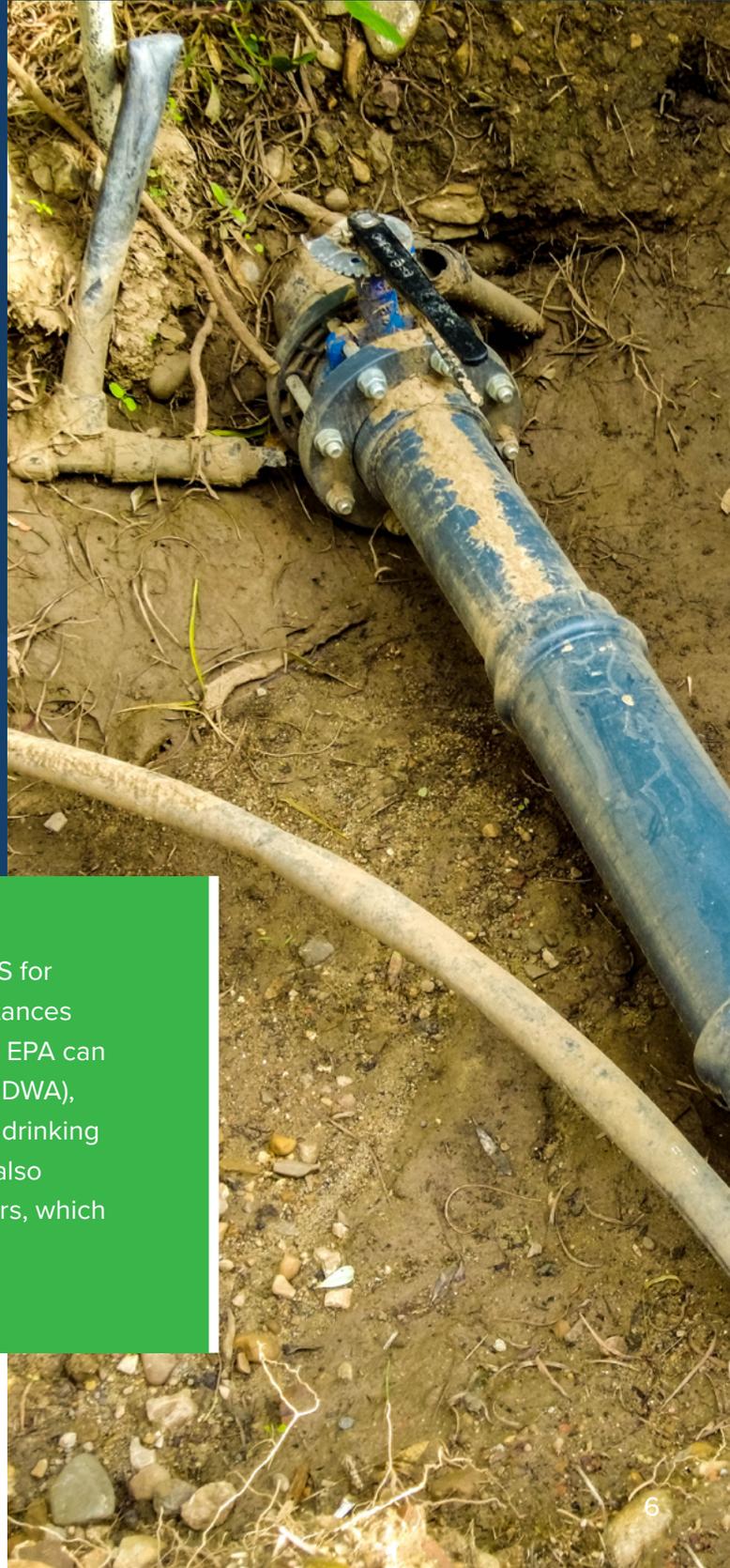
PFAS STRATEGIC ROADMAP

Research

The PFAS Strategic Roadmap commences with research to garner deeper understanding of PFAS exposure and toxicity risk, potential human health impact, and ecological effects—for which data has been scarce. Understanding the various PFAS lifecycle(s) will guide innovation and identify potential intervention measures to reduce emissions and exposure moving forward.

To address the toxicity data gap, the EPA's Office of Chemical Safety and Prevention in collaboration with the Office of Research and Development developed the National PFAS Testing Strategy. Released in October 2021, this testing blueprint is helping to provide a more comprehensive understanding of how each PFAS contributes to the cumulative burden of pollution in communities. Testing under this new strategy began in late 2021.

This research phase will help the EPA identify specific PFAS for which testing will eventually be required under Toxic Substances Control Act (TSCA) regulations. Through those actions, the EPA can better reinforce elements of the Safe Drinking Water Act (SDWA), which establishes data and risk-based programs to assess drinking water contaminants and other emergent concerns. SDWA also requires water systems to conduct sampling every five years, which is expected to continue.



PFAS STRATEGIC ROADMAP

Restrict

In addition to furthering PFAS research, the EPA is pursuing a comprehensive approach to proactively control for limiting exposure and addressing hazards associated with exposure to PFAS will be placed on manufacturers, processors, distributors, importers, industrial and other significant users, dischargers, and treatment and disposal facilities.

The EPA's Office of Water is expected to issue the first proposed rule regarding restriction, in fall 2022, establishing national primary drinking water regulations for PFOA and PFOS. These specific PFAS substances are currently subject to EPA-issued public health advisories when water supply levels reach 70 parts per trillion (ppt). But recent research has indicated exposure to PFAS at levels much lower than 70 ppt can negatively impact human health and the environment. This could lead the EPA to set those required limits much lower.

The EPA is also expected to establish national technology-based regulatory limits through a multi-faceted Effluent Limitations Guidelines (ELG) program to restrict PFAS discharges from industrial sources. This will allow regulators to better identify PFAS releases and use enforcement tools to limit future releases, address existing contamination, and hold responsible parties accountable.

From an environmental justice standpoint, this restriction phase aims to minimize and ultimately prevent PFAS discharges and emissions in all communities, regardless of income, race, or language barriers.

PFAS STRATEGIC ROADMAP

Remediate

The goal of the strategic roadmap's remediation stage is to broaden and accelerate PFAS cleanup to protect human health and the environment. The EPA will focus on speeding up deployment of treatment, destruction, disposal, and mitigation technologies while ensuring additional pollution is not created during those processes.

As part of the remediation efforts, the EPA expects to propose a rule designating PFOA and PFOS as hazardous substances under CERCLA, which could happen as soon as spring 2022. Under that designation, facilities would be required to report PFOA and PFOS releases to enhance data availability. The EPA would also be granted enforcement and cost recovery authority and may consider reopening previously closed Superfund sites for assessment under the new standards.

Designating these chemicals as hazardous substances under CERCLA would provide the EPA authority to pursue remediation and recovery costs from potentially responsible parties (PRPs). That could also open the door to possible litigation from both public and private entities seeking cost recovery or clean-up reimbursement.



PFAS STRATEGIC ROADMAP

Conclusion

PFAS regulations have existed in some form since 1998; however, lack of federal funding and support has made enforcement challenging. In November 2021, President Joe Biden signed the Infrastructure Investment and Jobs Act into law, which provides the EPA with unprecedented funding to support implementation of this strategic roadmap. The legislation includes \$55 billion for upgrading drinking water systems, with \$10 billion of that earmarked for PFAS remediation.

As the research phase continues and more studies are conducted, businesses need to prepare for potential risks and implications associated with the EPA's plan

to broaden oversight and regulation. Keeping up with the constant developments will be an arduous task—although a critical one. Understanding how and when each planned rule could impact future operations will be crucial to assessing potential financial and liability risk.

The EPA is not the only agency expected to implement PFAS regulations. In the coming years, industry leaders anticipate action from the Department of Defense (DOD), Centers for Disease Control and Prevention (CDC), U.S. Department of Agriculture (USDA), and the National Institutes of Health (NIH).

Now is not the time to go it alone. Without proper guidance, compliance checks, permitting, and more—the implications could be enormous for affected businesses. As PFAS regulation moves from research to remediation—The ELAM Group is prepared to help clients navigate the complex yet imminent changes.

**Regulations
are here and
enforcement
is imminent.**

***Are you
prepared?***

About The ELAM Group

The ELAM Group provides worldwide talent and a personal touch to match its unparalleled expertise. Whether engaged in highly contentious litigation, assisting you with claim oversight or performing environmental contracting, our services have your specific needs in mind. Visit elamusa.com to learn more.



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Glossary of Terms

CDC	Centers for Disease Control and Prevention
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOD	Department of Defense
HAP	Hazardous Air Pollutant
ECOS	Environmental Council of the States
ELG	Effluent Limitations Guidelines
EPA	Environmental Protection Agency
IDEM	Indiana Department of Environmental Management
NDAA	National Defense Authorization Act
NIH	National Institutes of Health
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PRP	Potentially Responsible Parties
SDWA	Safe Drinking Water Act
TRI	Toxic Release Inventory
TSCA	Toxic Substances Control Act
USDA	U.S. Department of Agriculture

Source Links

[IDEM PFAS Sampling Project 2021](#)

[EPA National Priority Site List](#)

[National PFAS Testing Strategy – EPA's Office of Chemical Safety and Pollution Prevention and EPA's Office of Development and Research](#)



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