Addressing Forever Chemicals

Current as of: 2/6/2026

Per- and Polyfluoroalkyl substances (PFAS) are a family of chemical compounds that have been manufactured and used throughout the nation and world since the 1940s. Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) are the most common chemicals used in the PFAS group. They are known as “forever” chemicals because they disintegrate very slowly.

PFAS have been widely used in the manufacture of non-stick cookware, in the textile and outdoor clothing industry, as additives to firefighting foams, and in the packaging industry. Because of the widespread use of PFAS and their resulting presence in the environment, most Americans have detectable levels of PFAS in their bloodstreams. Solid waste streams that contain PFAS are present in most closed and active landfills nationwide. Scientific and medical studies demonstrate that long-term exposure to high levels of certain classes of PFAS compounds can cause significant human health effects, including immunological response alteration, liver damage, and decreased birth weight, and may cause kidney and testicular cancer.

> Communities should prepare for the anticipated boost in funding, most of which will be offered through competitive grants. Now is the time to prepare preliminary engineering reports, conduct necessary testing, estimate costs, complete environmental reviews, and reserve funding for any required matches. Communities that are prepared will be first in line for funding, and their grant applications will be more competitive.

Over the past decade, certain state governments, including Vermont, have actively developed maximum contaminant levels (MCL) and corrective actions for potable water sources impacted by PFAS; however, a federal regulatory framework has not existed. Beginning in 2021, the United States Environmental Protection Agency (EPA) developed and published a nationwide approach and framework to “Research, Regulate, and Remediate” PFAS.

Like Vermont's PFAS program, the EPA guidance document is titled, "PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024" and consists of a comprehensive three-pronged multi-year program, to accomplish three main objectives:

Research. Develop a research program to better understand the human health effects of certain groups of PFAS and understand how PFAS move through and persist in the environment.

Restrict. Develop a comprehensive approach to prevent PFAS from continuing to enter air, land, and water at levels that cause human health and ecological damage. This portion of the roadmap directs various offices within the EPA to develop nationwide monitoring and regulatory programs for drinking water and effluent (discharge) limits for industry, publicly-owned pretreatment works (POTW), and landfills.

Remediate. This section of the roadmap directs EPA offices to develop and measure the effectiveness of PFAS mitigation technologies and develop new methods, standards, and programs to treat PFAS in soil, air, and water.

Vermont and a handful of other mostly northeastern states have proactively developed MCLs for short lists of PFAS compounds. These states have implemented potable water system testing programs, researched and investigated PFAS sources, and developed their own regulatory programs for investigating and mitigating sources of PFAS in the environment. As such, municipalities in Vermont are already well ahead of the national curve in working with state agencies to research, restrict, and remediate these forever chemicals.

As is clearly stated in the Vermont PFAS Road Map, the Vermont Department of Environmental Conservation (DEC) has planned numerous activities in anticipation of the EPA's PFAS program to enhance Vermont's PFAS investigation and remediation program.

These tasks include:

- working with EPA to identify and investigate sources of PFAS and impacts on human health and the environment;
- evaluation of EPA toxicological PFAS studies for development of Vermont Water Quality Standards;
- working with the EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) to evaluate classes of PFAS; and
- establishing MCLs for the broader classes of PFAS.

As the DEC works with EPA under the new federal framework, much of this additional work will tie directly to municipalities. Municipalities (along with state health and environmental agencies) are responsible for providing clean drinking water, upgrading wastewater treatment plants to remove PFAS, and addressing community concerns around PFAS sources such as municipally-owned closed landfills.

Fortunately, the federal government has responded to the PFAS crisis by providing funding to address and implement components of the federal PFAS roadmap. Recently, the U.S. Congress passed the Infrastructure, Investment and Jobs Act (IIJA) (also known as the Bipartisan Infrastructure Law or BIL), which will provide the EPA with more than $50 billion to distribute water and sewer infrastructure funding to states, tribes, and territories primarily through the State Revolving Fund (SRF) program. EPA implements the SRF program through state agencies that ultimately provide funding to municipalities through grant and loan programs. IIJA funding may also be provided to states to distribute funding outside the SRF program.

A significant share of the $50 billion will be set aside to address emerging contaminants including PFAS:

- $5 billion for drinking water upgrades in disadvantaged communities, which may include addressing emerging contaminants such as PFAS. States can apply for the funding to provide grants to disadvantaged communities of less than 10,000 in population that are underserved (no drinking water or a water system that violates federal drinking water requirements).
- $4 billion for drinking water improvements through the Drinking Water State Revolving Fund (DWSRF). All funding will be provided as grants or principal forgiveness loans.
- $1 billion to address emerging contaminants in wastewater and stormwater systems through the State's Clean Water State Revolving Fund (CWSRF). All funding will be provided as grants or principal forgiveness loans.

IIJA funding will be to states over five years. Based on estimates provided by EPA, Vermont's 2022 allotments include $7,540,000 for grants to address emerging contaminants including PFAS in drinking water systems and $462,000 to address emerging contaminants in wastewater and stormwater systems.

While the IIJA funding will provide a boost for DWSRF and CWSRF programs, the programs have always been available to address public health issues. Emerging contaminants are a public health issue and, therefore, the traditional DWSRF and CWSRF programs can potentially be leveraged to address PFAS. Similarly, other federal programs such as Community Development Block Grant (CDBG) infrastructure program and the U.S. Department of Agriculture Rural Development infrastructure program provide funding to address public health issues such as emerging contaminants.

Many communities are also trying to finalize how they will spend their American Rescue Plan Act (ARPA) allocation. Infrastructure improvements are an eligible use of

ARPA funds to upgrade local water, sewer, and stormwater systems including addressing PFAS.

Communities should prepare for the anticipated boost in funding, most of which will be offered through competitive grants. Now is the time to prepare preliminary engineering reports, conduct necessary testing, estimate costs, complete environmental reviews, and reserve funding for any required matches. Communities that are prepared will be first in line for funding, and their grant applications will be more competitive.