



Special Report

Final PFAS National Primary Drinking Water Regulation

April 19, 2024

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Introduction

On April 10, 2024, the Environmental Protection Agency (EPA) announced the final [National Primary Drinking Water Regulation \(NPDWR\)](#) for six PFAS substances. The announcement marks the first-ever national drinking water standard for per- and polyfluoroalkyl substances (PFAS). In the process of finalizing the rule, the EPA reviewed more than 120,000 public comments on the proposed rule and considered feedback received during numerous consultations and engagements with stakeholders, both before and after the proposal. The EPA foresees that the implementation of this final rule will effectively safeguard approximately 100 million individuals from PFAS exposure in their drinking water over the course of many years, preventing thousands of fatalities and significantly reducing tens of thousands of severe illnesses attributed to PFAS. In addition, \$1 billion in funding will be available to all 50 states and territories through the Emerging Contaminants in Small or Disadvantaged Communities Grant program. Implementing the finalized rule comes with a \$1.5 billion annual cost, nearly twice the amount the EPA initially estimated.

In this Special Report, TFG summarizes the 629-page final [National Primary Drinking Water Regulation \(NPDWR\)](#) rule and provides additional information sources.

Background

Per- and polyfluoroalkyl substances (PFAS), also known as ‘forever chemicals’, are a large, complex group of synthetic chemicals – an estimated 5,000 different types – that have been used in consumer products around the world since about the 1940s. Due to their extensive application and their long-lasting nature in the ecosystem, numerous PFAS compounds have been detected in the bloodstreams of individuals and animals worldwide.

Today, PFAS can be found in the following:



Exposure to certain types of PFAS over a long period of time can cause cancer and other illnesses. In addition, PFAS exposure during critical life stages such as pregnancy or early childhood can also result in adverse health impacts.

To address this health-related challenge, in March 2021, the EPA took the first step to regulate PFAS by announcing an intent to regulate PFOA and PFOS in drinking water by adding them to a list of contaminants targeted for future regulation (PFOA and PFOS are considered the most harmful and most widely used types of PFAS and have faced bans from production in the US). As part of this decision, the EPA expressed its intention to assess other PFAS substances and explore potential regulatory measures to address other groups of PFAS.

On March 24, 2023, the EPA introduced the proposed PFAS NDPWR. In addition, the EPA announced preliminary regulatory determinations for other PFAS chemicals – PFHxS, PFNA, HFPO-DA, and PFBS – consistent with the regulatory development process governed by the Safe Drinking Water Act. The EPA's proposal consisted of individual Maximum Contaminant Levels (MCLs) for PFOA and PFOS, while employing a Hazard Index to regulate PFHxS, PFNA, HFPO-DA, and PFBS. This Hazard Index accounts for the combined presence of these four PFAS substances in mixtures.

Final Rule Requirements

Based on the work above, the EPA, consistent with its authority under the Safe Drinking Water Act, issued the National Primary Drinking Water Regulations (NPDWRs) for specific PFAS contaminants found in drinking water and mandated monitoring requirements for public water systems.

Also, in conjunction with the final drinking water standard for key contaminants, EPA declared the final individual regulatory determinations for PFHxS, PFNA, and HFPO-DA, as well as a final regulatory determination for contaminants containing two or more of these three PFAS and PFBS. This regulation also intends to remove numerous other PFAS compounds when they co-occur with the regulated PFAS substances mentioned (PFHxS, PFNA, and HFPO-DA).

States will need to adopt the standards of the EPA's MCLs. Currently, there are ten states that have enforceable drinking water standards for PFOS and PFOA, but they do not have standards as stringent as EPA's final MCL for those compounds of 4 parts per trillion. Therefore, states such as New York, Pennsylvania and Michigan will need to submit revised programs to EPA within two years of the publication of the Final Rule to keep their enforcement authority under the SDWA. States may, however, request an additional two-year extension under certain circumstances.

The SDWA – under which the NPDWR rule is developed – generally provides a three-year timeframe for compliance with new rules. Because of the additional time required for capital improvements for systems to comply with the PFAS MCLs, the EPA is exercising its authority under the SDWA to extend the timeline for compliance to five years. Systems must comply with the other requirements, such as notifications, starting three years after the rule is final.

Rules and Implementation Timeline

Under the rule requirements, public water systems must:

- Conduct initial and ongoing compliance monitoring for the regulated PFAS.
- Implement solutions to reduce regulated PFAS in their drinking water if levels exceed the MCLs.
- Inform the public of the levels of regulated PFAS measured in their drinking water and if exceeding an MCL.

EPA's final rule provides the following implementation timeframes for water systems.

- **Within three years of rule promulgation (2024 – 2027):** Public water systems have three years to complete initial monitoring (by 2027), followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027.

- **Starting three years following rule promulgation (2027 – 2029):** Following the conclusion of the initial monitoring phase, states must include the results in Consumer Confidence Reports (i.e., Annual Water Quality Report). Regular monitoring for compliance must begin and include the results of compliance monitoring in Consumer Confidence Reports. In the event a public entity detects PFAS higher than the listed MCLs, that entity or water system must alert the public within 30 days of discovery of the PFAS level over the MCL limit. Public notification for monitoring and testing violations will also occur in this timeline.
- **Starting five years following rule promulgation (starting 2029):** Public water systems that have PFAS in drinking water that violates one or more of these MCLs must take action to reduce levels of these PFAS in their drinking water and must provide notification to the public of the violation.

Regulatory Levels: Maximum Contaminant Levels (MCLs)

The final rule establishes a two-tiered regulatory structure: 1) legally enforceable MCLs for PFAS in drinking water: PFOA, PFOS, PFHxS, PFNA, and HFPO-DA as contaminants with individual MCLs; and 2) PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water.

- EPA is setting enforceable MCLs at 4.0 parts per trillion for PFOA and PFOS, individually.
 - This standard will reduce exposure from these PFAS in drinking water to the lowest levels that are feasible for effective implementation.
- For PFNA, PFHxS, and HFPO-DA (GenX Chemicals), the EPA is setting MCLs of 10 parts per trillion.
- EPA is also regulating, through a hazard index (HI), mixtures of four PFAS—PFHxS, PFNA, HFPO-DA, and PFBS.

| Compound | Final MCLG | Final MCL (enforceable levels) |
|---|------------------------------|---|
| PFOA | Zero | 4.0 parts per trillion (ppt) (also expressed as ng/L) |
| PFOS | Zero | 4.0 ppt |
| PFHxS | 10 ppt | 10 ppt |
| PFNA | 10 ppt | 10 ppt |
| HFPO-DA (commonly known as GenX Chemicals) | 10 ppt | 10 ppt |
| Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS | 1 (unitless) Hazard Index | 1 (unitless) Hazard Index |

Cost Benefit Analysis

The EPA used a cost-benefit analysis when deriving the final rule. The expected annual cost to implement the final rule is \$1.5 billion annually.

The benefits were quantified by considering the costs of illness, such as lost wages, medical bills, and the value of every life lost. Of the 66,000 public drinking water systems, EPA estimates that between 6% and 10% (or 4,100 to 6,700) of public

water systems serving between 83 – 105 million people will need to take action to reduce PFAS and meet the new standards. The analysis concluded that the rule would result in nearly 10,000 fewer deaths and 30,000 avoided illnesses.

Changes Made to the Proposed Rule

Based on public comments, below are the changes made by EPA in the final rule to the proposed rule.

- Compliance deadline for MCLs increased to 5 years instead of 3 years for systems to plan, fund, and construct capital improvements.
- Set individual MCLGs/MCLs for PFHxS, PFNA, and HFPO-DA (GenX chemicals) in addition to the mixture HI MCLG/MCL for PFHxS, PFNA, HFPO-DA, and PFBS.
- Final HI MCL requires presence of two or more PFAS versus one or more.
- Additional flexibility to reduce ongoing monitoring from quarterly to annual or triennial based on results.

EPA has shared a [comprehensive comparison](#) of the proposed and final rule.

Public Perception

The final rule will likely face heightened attention, and likely legal challenges, as stakeholders continue to weigh in even after the public comment period which solicited over 120,000 comments.

Challenges

Major concerns with the final rule include:

- **Uncertainty with requirements:** Implementation of the final rule has many industry leaders believing the practicality of following through with the EPA's ruling and timeline is uncertain at best – particularly given the stringent requirement for PFOS and PFOA treatment at 4 parts per trillion. Others assert that materials and sampling laboratories necessary for testing water samples may be overwhelmed. While EPA increased the compliance time for the MCLs from three years to five years – between the proposed and final rules – many argue that the timeline is still too stringent.
- **Discrepancy in total cost:** A wide array of impacted groups (e.g., municipal water agencies) believe the costs of implementing the rule are much higher than the approximated \$1.5 billion cost and that the EPA has misrepresented the costs as too low.

Opportunities

Proponents of the final rule have indicated a clear array of important public health benefits from the rule, including:

- **Health implications:** Thousands of lives and tens of thousands of serious illnesses will be saved and or prevented, including certain cancers, liver and heart impacts in adults, and immune and developmental impacts to infants and children.
- **Clean water for all is an imperative:** Establishing a first time legally enforceable drinking water standards to protect communities from PFAS in their drinking water.
- **Available funding for implementation:** Drinking water utilities and other stakeholders will have access to \$1 billion in funding assisting states and territories implement PFAS testing and treatment at public water systems and to help owners of private wells address PFAS contamination.

Informational Sources

Webinars

The EPA will host three information webinars for the PFAS NPDWR final rule. The webinars will cover and address concerns for communities, water systems, and other drinking water professionals. The webinars are scheduled for April 16, April 23, and April 30, 2024, with recordings and presentation materials to follow on the website. The three webinars will be similar with general information and the EPA will tailor each webinar for the specific audiences. Registration is required to attend.

- April 16, 2024 (2:00-3:00 pm EDT) [General Overview of PFAS NPDWR for Communities: View Past Webinar and Access Presentation Materials](#)
- April 23, 2024 (2:00 - 3:00 pm EDT) [Webinar Registration: Drinking Water Utilities and Professionals Technical Overview of PFAS NPDWR](#)
- April 30, 2024 (2:00 - 3:30 pm EDT) [Webinar Registration: Small Drinking Water Systems Webinar Series on Final PFAS NPDWR and PFAS Drinking Water Treatment](#)

Useful Links and Fact Sheets

Full [final rule](#) via Federal Register

EPA [main page](#) for Final PFAS National Primary Drinking Water Regulation

Comparison between EPA's proposed and final PFAS NPDWR [fact sheet](#)

Benefit and cost analysis [fact sheet](#)

Small and Rural Water Systems [fact sheet](#)

EPA created a [toolkit](#) for local government, utilities, states, delegation, stakeholders and others

[White House fact sheet](#) on the EPA final rule

Related Financial Assistance for Local Governments

Through the Bipartisan Infrastructure Law (BIL), the Biden Administration previously announced \$1 billion in funding for FY 2024 for the [Emerging Contaminants in Small or Disadvantaged Communities \(EC-SDC\) grant program](#). This program focuses exclusively on addressing emerging contaminants, including PFAS substances, in drinking water served by public water systems in small or disadvantaged communities.

Overall, the BIL included \$9 billion in federal funding to address PFAS, offering public water utilities and local communities the opportunity to tap into the State Revolving Funds (SRFs) provided by the funding. Many believe the funding is not enough to address the issue of treating contaminants adequately and completely, such as reducing PFAS in water systems.

The funding will support the 56 states and territories' efforts to begin initial PFAS testing and treatment at both public water systems and for homes served by privately owned wells to generally assist in meeting requirements of the drinking water rule and related efforts. EPA will award funding to states based on an allocation formula that includes factors such as population, number of water systems, and data related to emerging contaminants. EPA estimates the application process will open for state and territories later this year, and most projects will have a project completion period of four years.

Eligible Emerging Contaminants Projects

Eligible activities for the Emerging Contaminants in Small or Disadvantaged Communities grant program include:

- Efforts to address emerging contaminants in drinking water that would benefit a small or disadvantaged community on a per-household basis.
- Technical assistance to evaluate emerging contaminant problems.
- Programs to provide household water-quality testing, including testing for unregulated contaminants.
- Local contractor training.
- Activities necessary and appropriate for a state to respond to an emerging contaminant.

Projects that address any contaminant listed in any of EPA's [Contaminant Candidate Lists](#) are also eligible.

Eligible Emerging Contaminants Applicants

The grant program is established as noncompetitive and eligibility to apply for and receive funds is limited to all fifty states and territories. States are to use this funding to make grants to eligible emerging contaminant projects and/or activities in small or disadvantaged communities.

EPA has identified the target beneficiaries as:

- **“Disadvantaged Community”** is one determined by the state to be disadvantaged under the affordability criteria established by the state under section 1452(d)(3) of the Safe Drinking Water Act or may become a disadvantaged community as a result of carrying out a project or activity under the grant program. As with the Drinking Water State Revolving Fund program, each state has statutory discretion to set its own criteria.
- **“Small Community”** is one that has a population of less than 10,000 individuals that the Administrator determines does not have the capacity to incur debt sufficient to finance a project or activity under the grant program. This is a statutory definition.

In March 2024, Congress made a legislative change in the FY 2024 Consolidated Appropriations Act to include “owners of drinking water wells that are not public water systems or connected to a public water system” as eligible beneficiaries of FY 2024 funds awarded to states.

State Allotments

EPA outlines the allocations per state and territory for the \$1 billion in funding available for FY 2024 in the chart below.

**FY 2024 BIL Emerging Contaminants in Small or Disadvantaged Communities Grant Allotments
Based on FY2024 Appropriations of \$945.7M**

| State/Territories | Allocation | State/Territories | Allocation |
|----------------------|--------------|--------------------------|--------------|
| Alabama | \$25,707,000 | New Hampshire | \$9,457,000 |
| Alaska | \$9,457,000 | New Jersey | \$33,570,000 |
| American Samoa | \$9,457,000 | New Mexico | \$9,457,000 |
| Arizona | \$21,385,000 | New York | \$41,487,000 |
| Arkansas | \$9,457,000 | North Carolina | \$29,322,000 |
| California | \$82,961,000 | North Dakota | \$9,457,000 |
| Colorado | \$41,849,000 | Northern Mariana Islands | \$9,457,000 |
| Connecticut | \$9,457,000 | Ohio | \$22,466,000 |
| Delaware | \$9,892,000 | Oklahoma | \$10,526,000 |
| District of Columbia | \$9,457,000 | Oregon | \$9,505,000 |
| Florida | \$40,732,000 | Pennsylvania | \$37,013,000 |
| Georgia | \$25,826,000 | Rhode Island | \$9,457,000 |
| Guam | \$9,457,000 | Puerto Rico | \$9,457,000 |
| Hawaii | \$9,457,000 | South Carolina | \$11,048,000 |
| Idaho | \$9,457,000 | South Dakota | \$9,457,000 |
| Illinois | \$21,806,000 | Tennessee | \$13,163,000 |
| Indiana | \$12,848,000 | Texas | \$55,125,000 |
| Iowa | \$9,457,000 | Utah | \$9,457,000 |
| Kansas | \$9,457,000 | US Virgin Islands | \$9,457,000 |
| Kentucky | \$11,086,000 | Vermont | \$9,457,000 |
| Louisiana | \$12,765,000 | Virginia | \$13,519,000 |
| Maine | \$9,457,000 | Washington | \$17,321,000 |
| Maryland | \$9,458,000 | West Virginia | \$9,457,000 |
| Massachusetts | \$19,249,000 | Wisconsin | \$13,224,000 |
| Michigan | \$19,734,000 | Wyoming | \$9,457,000 |
| Minnesota | \$14,751,000 | | |
| Mississippi | \$10,023,000 | | |
| Missouri | \$12,457,000 | | |
| Montana | \$9,457,000 | | |
| Nebraska | \$9,457,000 | | |
| Nevada | \$9,457,000 | | |