

EPA Has Finalized Maximum Contaminant Levels for PFAS

Understanding the National Primary Drinking Water Regulation

EPA has announced a final National Primary Drinking Water Regulation (NPDWR) for six per- and polyfluoroalkyl substances (PFAS). Compliance will be required five years after the rule appears in the Code of the Federal Register.

Final PFAS Rule

EPA has finalized **legally enforceable** Maximum Contaminant Levels (MCLs) for six PFAS in drinking water:

- ❖ PFOA and PFOS as individual contaminants at **4.0 ng/L** each.
- ❖ PFHxS, PFNA, and HFPO-DA (GenX) as individual contaminants at **10 ng/L** each.
- ❖ PFBS, PFHxS, PFNA, and HFPO-DA (GenX) as a PFAS mixture at a Hazard Index (HI) limit of **1** (see next page).

EPA is also publishing **health-based, non-enforceable** Maximum Contaminant Level Goals (MCLGs) for these six PFAS.

These limits are mostly the same as those proposed in March 2023.



What Will Be Required

The final rule requires public water systems to:

- Monitor for these PFAS by 2027.
- Notify the public of the levels of these PFAS by 2027.
- Reduce the levels of these PFAS in drinking water if they exceed the standards by 2029.

Understanding the Hazard Index (HI)

A Hazard Index, or HI, is a risk management approach for mixtures of chemicals, which may have additive health effects even if the individual chemicals are each present at safe levels. For example, the EPA uses HIs to rank CERCLA sites. This is the first time an HI is used for drinking water regulation. The PFAS HI is calculated as follows:

$$HI = \frac{[PFHxS]}{10 \text{ ng/L}} + \frac{[GenX]}{10 \text{ ng/L}} + \frac{[PFNA]}{10 \text{ ng/L}} + \frac{[PFBS]}{2,000 \text{ ng/L}}$$

An MCL violation (i.e., HI ≥ 1) can occur even if all four PFAS concentrations are below their individual Health Based Water Concentrations (HBWCs), shown in the denominators of the formula. Compared to the proposed rule, the HBWC for PFHxS was revised from 9 ng/L to 10 ng/L.

Monitoring Requirements

Public water systems must initially sample at all entry points to the distribution system based on the frequency outlined in the table below. Systems with previously acquired monitoring data from UCMR5, state-led, or other applicable monitoring programs using EPA Method 533 or 537.1 version 2.0 will not be required to conduct additional initial monitoring.

Based on the initial monitoring results, primacy agencies may reduce compliance monitoring frequency using a three-tier approach (triennially, annually, or quarterly) based on the initial monitoring results in relation to the rule trigger level (RTL) and the MCLs. The RTL is one-half of the MCLs (e.g., 2.0 ng/L for PFOA or PFOS, or an HI of 0.5).

Compliance will be determined by running annual averages (RAA) at the entry point. When calculating the RAA, if a result is less than the practical quantitation level (PQL) for the monitored PFAS, zero is used to calculate the compliance data. PQLs are defined as the lowest levels at which regulated PFAS can be reliably quantified.

PWS Type	Monitoring Frequency
All Surface Water and Groundwater Under Direct Influence of Surface Water Systems	Monitor regulated PFAS quarterly 2-4 months apart in a consecutive 12-month period
Groundwater Systems serving >10,000 persons	
Groundwater Systems serving ≤ 10,000 persons	Monitor regulated PFAS twice within a 12-month period, with sampling events conducted 5-7 months apart

Carollo Can Help You Respond

With experience in every step from source evaluation through compliance, we are ready to help you:

1. Support public communication about PFAS and actions being taken.
2. Identify and implement funding strategies.
3. Locate PFAS sources and assess source mitigation or alternative supply opportunities.
4. Develop treatment alternatives using Carollo's advanced decision support tool – Blue Plan-it® – to efficiently evaluate dozens of “what if” scenarios.
5. Conduct bench- and pilot-scale tests on established and emerging technologies through our specialized Water Applied Research Center (Water ARC®).
6. Design treatment facilities.
7. Develop residuals management strategies.
8. Provide estimates of construction, operation, and maintenance costs.
9. Avoid unintended impacts to finished water quality, and maintain distribution system corrosion control when implementing a PFAS treatment process.

PFAS	PQLs	RTLs
PFOA	4.0 ng/L	2.0 ng/L
PFOS	4.0 ng/L	2.0 ng/L
PFBS	3.0 ng/L	N/A
PFHxS	3.0 ng/L	5 ng/L
PFNA	4.0 ng/L	5 ng/L
HFPO-DA (GenX)	5.0 ng/L	5 ng/L