PFAS in Municipal Drinking Water

What You Need to Know — and What You Can Do Today

NORIT Technical FAQ for Municipal Drinking Water Systems

Per- and polyfluoroalkyl substances (PFAS) are one of the most discussed emerging water quality challenges facing municipal drinking water systems today. While regulations and public awareness are evolving rapidly, effective, proven treatment solutions already exist, and utilities can take practical, defensible steps now to manage both compliance risk and cost.

This FAQ addresses common PFAS questions and highlights how activated carbon based treatment remains a cornerstone of successful PFAS management programs for municipal drinking water systems.

What Are PFAS and Why Do They Matter to Municipal Drinking Water Systems?

PFAS are a large family (12,000+ compounds) of synthetic chemicals characterized by strong carbon–fluorine bonds that make them highly resistant to degradation. Because of this persistence, they are often referred to as "forever chemicals." PFAS matter to municipal drinking water systems because they can enter source waters through:

- Industrial discharges and legacy manufacturing impacts
- Landfill leachate and wastewater residuals
- Aqueous film-forming foam (AFFF) use near airports, military sites, or training areas
- Contaminated groundwater, rivers, reservoirs, or other drinking water sources

Regulatory scrutiny, public expectations, and community trust are driving heightened attention to PFAS across the municipal water sector, particularly for source water protection and finished water compliance.

The good news: PFAS behavior in water is well understood, and treatment technologies, especially activated carbon, are already widely deployed and effective.

Which PFAS Are Regulated and What Is the Timing?

In 2024, the U.S. EPA finalized its first federal drinking water standards for PFAS. As of mid-2026, the regulatory landscape is actively shifting:

Confirmed and Retained:

- PFOA: 4 ng/L (ppt)
- PFOS: 4 ng/L (ppt)

The EPA has affirmed it will keep and defend these MCLs. PFOA and PFOS are also now designated as CERCLA hazardous substances (effective July 2024), increasing the importance of documented treatment and waste management practices.

Proposed for Rescission (May 2026):

- PFHxS: 10 ng/L (ppt)
- PFNA: 10 ng/L (ppt)
- HFPO-DA (GenX): 10 ng/L (ppt)
- Hazard Index (HI) approach for mixtures containing two or more of PFHxS, PFNA, HFPO-DA (GenX), and PFBS

In May 2026, the EPA formally proposed to rescind the MCLs for PFHxS, PFNA, and HFPO-DA (GenX), along with the Hazard Index standard. The EPA's stated rationale is that the prior administration did not properly follow the Safe Drinking Water Act's sequential regulatory determination process.

These standards remain technically in effect until the rescission is finalized, but their long-term status is uncertain. A public comment period is open through July 20, 2026. The date for the announcement of a final ruling is TBD.

Compliance Timeline: Public water systems must comply with the PFOA and PFOS MCLs by 2029. However, the EPA has also proposed allowing systems to apply for a two-year extension to 2031. Systems with PFOA or PFOS detections at 12 ppt or higher must still conduct public notification by 2029, regardless of extension status.

Many municipal water systems are acting now to stay ahead of:

- State-level regulations, which are often more stringent and remain unaffected by federal changes
- Public notification and consumer communication expectations
- Potential future changes in federal and state PFAS requirements

Important Note: Even if the federal rescission of the four additional PFAS MCLs is finalized, the EPA has indicated these compounds could be re-regulated under a corrected SDWA process, and the resulting limits could potentially be more stringent. Proactive management remains the safest course.

Do I Have PFAS in My Water — and Is My Current System Effective?

PFAS have been detected in many U.S. water systems, including areas without obvious industrial sources. Testing is the only way to know your exposure.

For many municipal systems, existing treatment processes may already provide meaningful PFAS reduction or can serve as the foundation for an effective treatment upgrade:

- Granular activated carbon (GAC) is highly effective for long-chain PFAS such as PFOA and PFOS
- Reverse osmosis (RO) provides broad PFAS rejection (>95%)
- Ion exchange resins (IX) can be effective for the removal of PFAS

What matters most is the treatment system condition and management. With appropriate design and maintenance, activated carbon based systems reliably meet today's strict PFAS targets.

What Treatment Options Are Available?

Technology	Strengths	Considerations
Granular Activated Carbon (GAC)	Highly effective for long-chain PFAS; including PFOA and PFOS; proven at full scale; cost effective	Less effective for some short-chain PFAS when used alone. High enough empty bed contact time (EBCT) can overcome this
Ion Exchange (IX)	Strong performance across many PFAS compounds	Sensitive to organics; resin disposal costs, cannot be reactivated
Reverse Osmosis (RO)	Broad PFAS rejection (>95%)	Produces a concentrated reject stream that must be disposed of.

Key Perspective:
Most PFAS treatment technologies separate and concentrate contaminants. What matters is how responsibly and permanently those concentrated residuals are managed, an area where activated carbon with high-temperature reactivation can offer a strong, long-term pathway.

Can PFAS Be Permanently Destroyed?

Yes. Certain PFAS compounds can be permanently destroyed using high-temperature thermal reactivation treatment, provided that sufficiently high temperatures and appropriate residence times are achieved.

NORIT Reactivation and PFAS Destruction

NORIT operates a dedicated activated carbon reactivation facility in Oklahoma that is designed and operated to achieve the extreme thermal conditions required for PFAS destruction. This facility has played a key role in demonstrating that PFAS adsorbed onto activated carbon can be destroyed during properly controlled thermal reactivation, rather than simply transferred to another waste stream.

Key elements of NORIT's approach include:

- Sustained reactivation temperatures exceeding 1,750 °F, which are widely recognized as necessary for long- and short-chain PFAS molecular breakdown
- Controlled furnace design and residence time, ensuring that adsorbed PFAS compounds are exposed to destructive thermal conditions
- Validated operating protocols specifically developed for PFAS-laden carbons
- Analytical verification (inlet/outlet and emissions testing) is used to confirm performance and help document that PFAS are not emitted or carried over

Through this combination of high-temperature operation, process control, and post-process verification, NORIT has shown that spent activated carbon containing PFAS can be responsibly regenerated while achieving destructive treatment of the adsorbed PFAS.

Why This Matters for Municipal Drinking Water Systems

This capability is important because most PFAS drinking water treatment technologies (GAC, ion exchange, RO) remove and concentrate PFAS but do not destroy them. Without a verified destruction pathway, utilities may face:

- Long-term liability for stored PFAS-containing residuals
- Higher disposal and residuals management costs
- Increased regulatory and public trust risk

By coupling proven PFAS adsorption with high-temperature reactivation and destruction, activated carbon becomes not only an effective treatment solution but also a sustainable and defensible long-term management strategy.

Can Activated Carbon That Has Adsorbed PFAS Be Reactivated?

Yes — and this is a critical advantage of activated carbon in the removal of contaminants like PFAS.

When properly reactivated:

- PFAS can be destroyed under properly controlled high-temperature reactivation conditions (rather than simply transferred to another waste stream)
- Carbon is restored for reuse, reducing waste and cost
- The overall environmental footprint of PFAS treatment is reduced

It is important that reactivation is performed in facilities capable of sustaining sufficiently high temperatures. NORIT works with reactivation processes designed to meet these requirements, supporting a circular, responsible PFAS management approach.

What Will This Cost — and What Is the Risk of Doing Nothing?

Costs are often manageable, especially for systems with existing treatment infrastructure:

- Incremental expenses may include testing, monitoring, engineering evaluation, and optimized carbon management
- New equipment for GAC systems can range from hundreds of thousands to several million dollars, depending on system size and treatment goals

The cost of inaction can be far higher, including:

- Regulatory non-compliance
- Higher future capital and operating costs due to delayed action
- Public communication challenges and loss of community trust
- Legal and reputational risk

Importantly, public funding opportunities exist at the federal and state levels to support PFAS water treatment investments.

How Does PFAS Affect My Business Beyond Water Treatment?

PFAS considerations extend across operations:

- **Finished Water Quality:** PFAS performance directly affects compliance and consumer confidence
- **Residuals Management:** Concentrated PFAS waste streams require proper documentation and disposal planning
- **Source Water Strategy:** Utilities may need to evaluate upstream contributors and long-term protection measures
- **Public Communication:** Customers increasingly expect transparency about PFAS monitoring and treatment

A proactive approach helps protect both compliance and public trust.

What Should We Be Doing Right Now?

Recommended Next Steps:

1. Test source water and finished water using the EPA Methods 537.1 or 533 at a qualified laboratory
2. Review current treatment performance, focusing on carbon loading, changeout, and monitoring
3. Identify regulatory exposure at local, state, and federal levels
4. Establish a PFAS management plan that covers monitoring, treatment, residuals handling, and communication
5. Set internal action and decision thresholds that trigger treatment changes, engineering review, or public communication
6. Confirm the sampling plan, including raw versus treated water locations, frequency, reporting limits, and chain of custody requirements, before baselining results

NORIT Perspective

Activated carbon is not just a stopgap; it is a central, long-term solution for PFAS management in municipal drinking water when properly designed, monitored, and reactivated.

NORIT supports municipal drinking water systems with:

- PFAS optimized carbon products
- System design and performance expertise
- High-temperature reactivation pathways
- A practical, defensible approach to compliance and sustainability

Quick Reference: Key PFAS Numbers

Parameter	Value
EPA MCL — PFOA	4 ng/L (ppt) Confirmed, retained
EPA MCL — PFOS	4 ng/L (ppt) Confirmed, retained
EPA MCL — PFHxS, PFNA, GenX	10 ng/L (ppt) each — Proposed for rescission (May 2026)
Hazard Index (HI) for mixtures	Proposed for rescission (May 2026)
Public water compliance deadline	2029 (extension to 2031 proposed)
CERCLA hazardous substance designation	PFOA and PFOS — Confirmed (effective July 2024)
Recommended test methods	EPA 537.1 / EPA 533
Federal PFAS compounds with confirmed MCLs	2 (PFOA, PFOS)
Federal PFAS compounds with MCLs proposed for rescission	23+HI (PFHxS, PFNA, GenX, + Hazard Index)