

Preparing for the PFAS Regulatory Future

Day 1

March 19, 2024

Fredrikson

Where Law and Business Meet®

Fredrikson Overview

We are a leading Midwest-based law firm:

- Nearly 400 lawyers serving clients from 10 offices worldwide
- Attorneys specialize in 50+ service areas with depth in key areas supporting energy, natural resources, and environmental clients
- We work collaboratively to help businesses achieve their goals regionally, nationally and globally
- We offer outstanding value and service, practical and creative advice, industry knowledge, and zealous and effective advocacy
- Clients have relied on us since 1948 for solutions that help them minimize legal risks and maximize business benefits

“

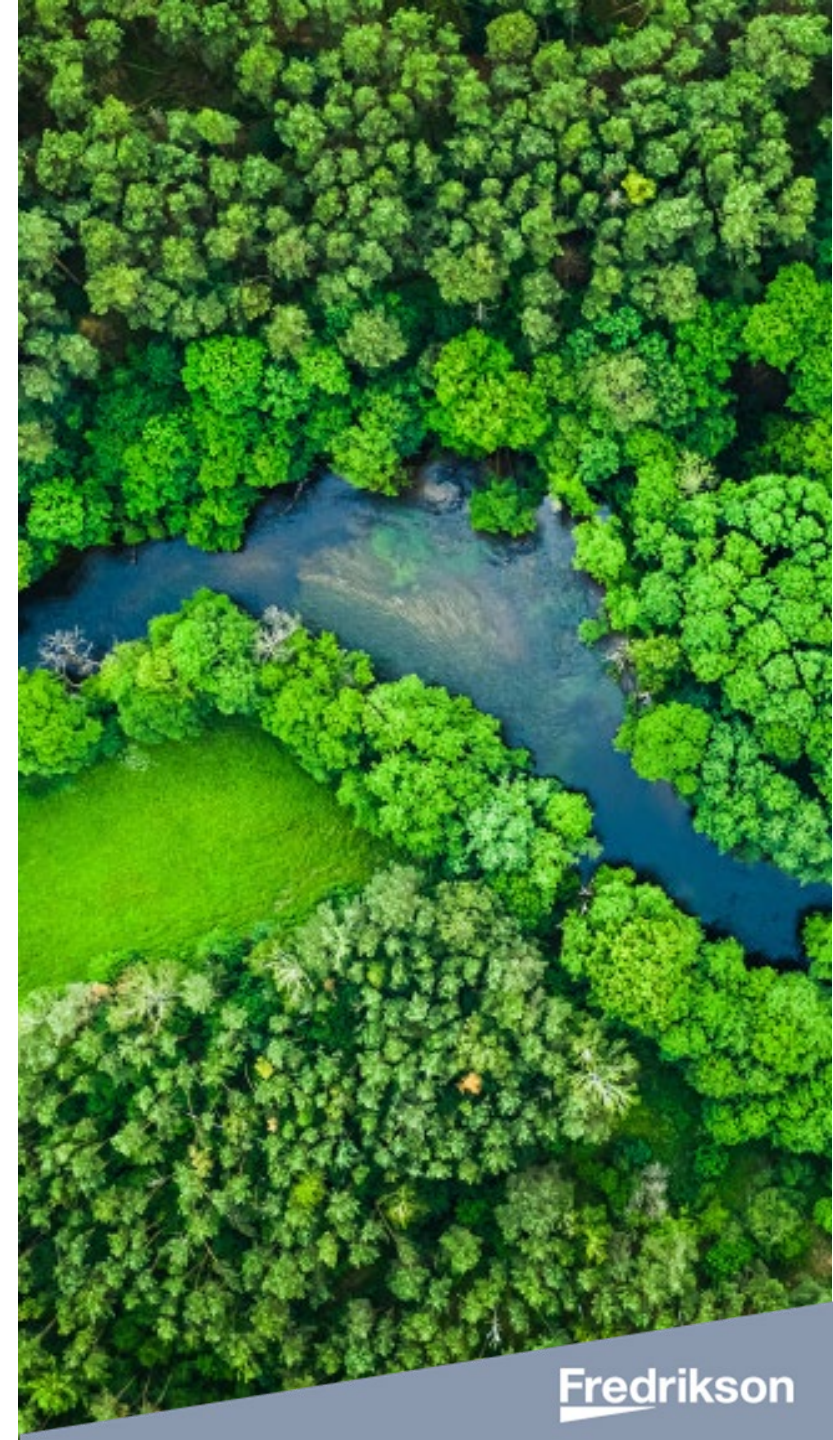
At Fredrikson, we've built a reputation as the firm *where law and business meet* by bringing business acumen and entrepreneurial thinking to our work with clients, and by operating as business advisors and strategic partners.”

Where Law and Business Meet[®]

Fredrikson's Environmental Group

20 attorneys support Minnesota, Iowa, North Dakota and Wisconsin with substantive environmental experience

- We counsel clients on environmental compliance in areas including waste, water and air.
- We advise in the investigation and cleanup of contaminated properties.
- We represent clients in environmental litigation, administrative and appellate proceedings.
 - We have extensive experience in state and federal courts, as well as arbitration.
 - We represent clients in administrative appeals, real estate litigation, environmental and regulatory disputes, environmental appeals and construction litigation.
- We manage the environmental aspects of real estate transactions and M&A involving all types of properties, businesses, and operations, including manufacturing, chemical, power generation, agribusiness, oil and gas, mining and service industries.



Today's Agenda



- PFAS Primer
- RCRA/CERCLA/MERLA/Spill Act
- Safe Drinking Water Act PFAS Limits
- Mitigating PFAS Litigation Risks
- PFAS Transactional Due Diligence Considerations

PFAS Primer

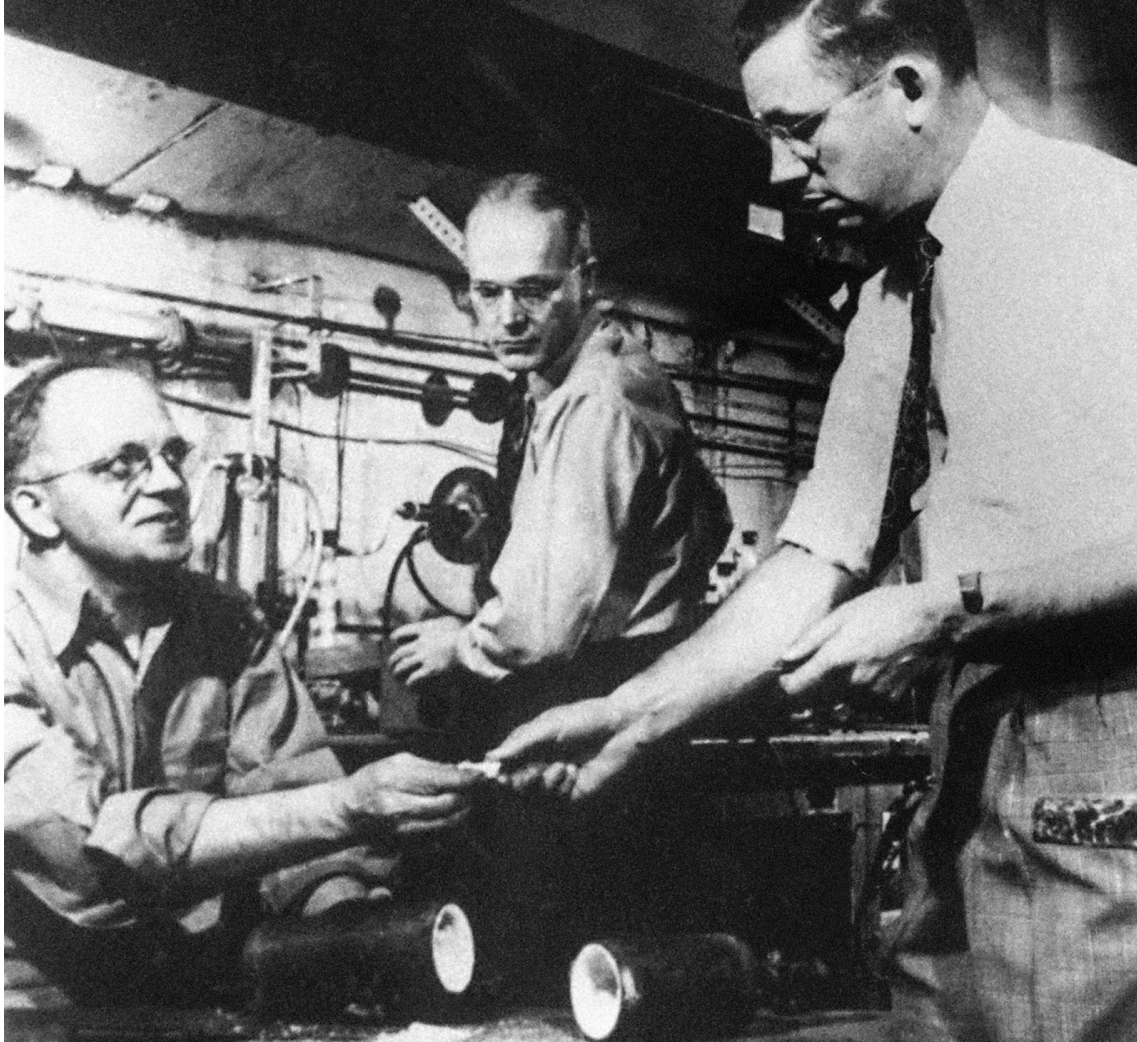


What Are PFAS?



- Per- and polyfluoroalkyl substances
- A group of over 5000 manmade fluorine-based chemicals that contain at least one fully fluorinated carbon atom. Minn. Stat. § 325E.075, subd. 1(c)
- Do not occur naturally in the environment

PFAS History



© 2024 Fredrikson & Byron, P.A.

- 1938: Roy J. Plunkett of E.I. du Pont de Nemours & Co. accidentally discovers polytetrafluoroethylene (PTFE)
- 1945: DuPont trademarks PTFE as Teflon
- 1945: Minnesota Mining and Manufacturing Company (3M) scientists discover perfluorooctanoic acid (PFOA)
- 1953: 3M scientists discover perfluorooctane sulfonic acid (PFOS)

PFAS Characteristics and Uses

- PFAS molecules have a chain of linked carbon and fluorine atoms: very strong
- Chemically and thermally stable and highly resistant to water, heat and oil
- Many everyday applications

PFAS Characteristics and Uses, cont.

“Consider, for example, the possibility of a lifetime lubricant sealed into your car engine; a house paint that just plain refuses to permit your home to burn down; pots and pans that literally push away scorched foods; detergents so effective a grease monkey’s overalls will come clean in a few swishes.”

– *Popular Mechanics*, 1952

PFAS in the Environment

- Do not easily degrade over time: “Forever Chemicals”
- Not easily removed by conventional pollution treatment
- Strong bioaccumulation potential
- Ubiquitous in the environment

PFAS Effects on Human Health

- Reproductive effects (decreased fertility, high blood pressure in pregnant women)
- Developmental effects or delays in children
- Increased risk of some cancers (prostate, kidney, and testicular)
- Impacts to the immune system's ability to fight infections
- Interference with the body's natural hormones
- Increased cholesterol levels and/or risk of obesity

PFAS Cleanup and Corrective Action



RCRA, CERCLA, MERLA & WI Spills Law

RCRA Corrective Actions: Proposed Rules

- On February 8, 2024, the EPA proposed two rules to provide – directly and indirectly – for corrective action of releases of certain PFAS at corrective action sites:
 1. “Listing of Specific PFAS as Hazardous Constituents,” [89 Fed. Reg. 8606](#) (February 8, 2024)
 2. “Definition of Hazardous Waste Applicable to Corrective Action for Releases From Solid Waste Management Units,” [89 Fed. Reg. 8598](#) (Feb. 8, 2024)

RCRA Corrective Actions: Listing Specific PFAS as Hazardous Constituents

- EPA is proposing to list nine PFAS, their salts, and their structural isomers to the list of hazardous constituents in 40 C.F.R. Part 261, Appendix VIII:
 1. Perfluorooctanoic Acid (PFOA);
 2. Perfluorooctanesulfonic Acid (PFOS);
 3. Perfluorobutanesulfonic Acid (PFBS);
 4. Hexafluoropropylene Oxide-Dimer Acid (GenX);
 5. Perfluorononanoic Acid (PFNA);
 6. Perfluorohexanesulfonic Acid (PFHxS);
 7. Perfluorodecanoic Acid (PFDA);
 8. Perfluorohexanoic Acid (PFHxA); and
 9. Perfluorobutanoic Acid (PFBA).

RCRA Corrective Actions: Listing Specific PFAS as Hazardous Constituents

- The rule is intended to apply to the RCRA Corrective Action Program by requiring corrective action to address releases of the listed PFAS at TSD facilities.
 - Listed PFAS would be considered in RCRA facility assessments, and where necessary, could be included in additional investigation and cleanup corrective actions.
- Listing these nine PFAS as hazardous constituents does not make them hazardous wastes subject to cradle-to-grave regulation.
 - But a hazardous constituent listing is a step toward a hazardous waste listing.

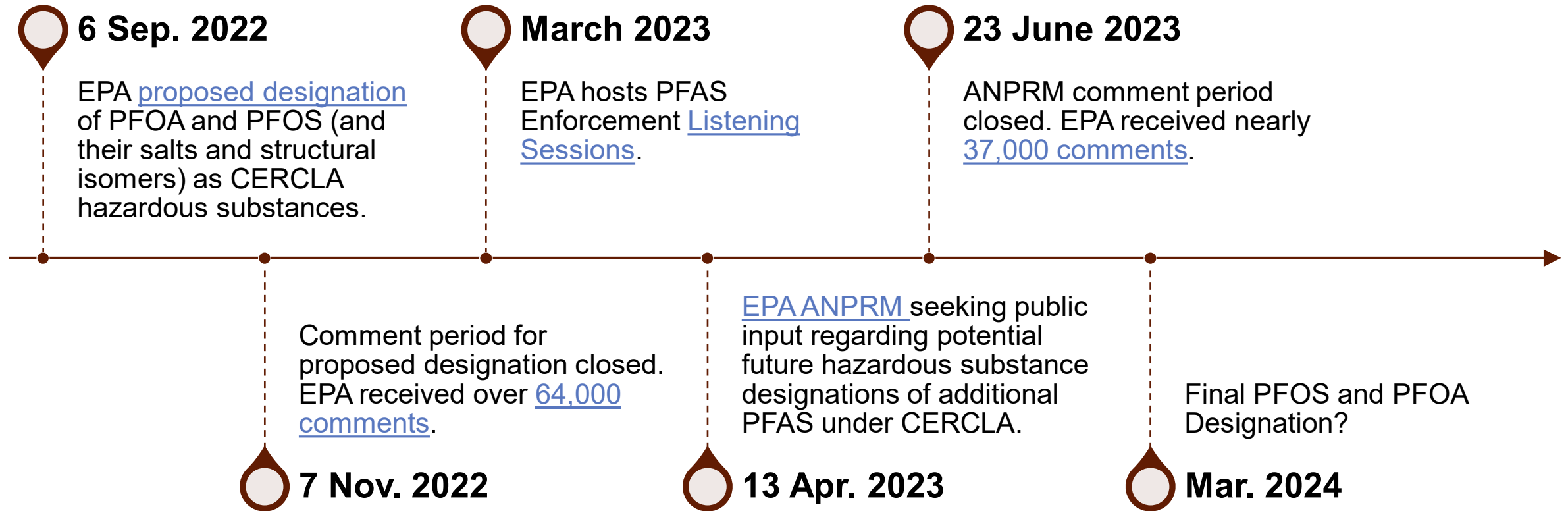
RCRA Corrective Actions: Listing Specific PFAS as Hazardous Constituents

- If the rule is finalized, EPA has identified 1,740 facilities that could be subject to additional corrective action requirements
- Industry Examples:
 - Waste Management and Remediation Services
 - Chemical Manufacturing
 - Petroleum and Coal Products Manufacturing
- Comments accepted on or before **April 8, 2024**

RCRA Corrective Actions: Hazardous Waste Definition

- Proposed amendments would clarify that RCRA corrective action authority at TSDFs applies to hazardous wastes meeting RCRA statutory definition
- While the proposed rule is not specific to PFAS, it would grant regulators the ability to address emerging contaminants beyond identified hazardous wastes or hazardous constituents
- Comments accepted on or before **March 26, 2024**

CERCLA: Hazardous Substance Designation



CERCLA: Hazardous Substance Designation

- Regulated Community Concerns:
 - CERCLA’s broad liability scheme goes beyond “polluter pays”
 - Significant impacts on huge universe of potentially responsible parties (PRPs)
 - Prohibitive response costs
 - Influx of CERCLA litigation – cost recovery, contribution, and natural resource damage claims
 - Impacts on current/closed Superfund sites:
 - Disrupted site cleanup processes
 - Additional sampling added to five-year reviews
 - Reopening completed cleanups
 - Effects on prior cost allocations

CERCLA: Hazardous Substance Designation

- EPA is developing a CERCLA PFAS Enforcement Discretion Policy
 - Enforcement focus on manufacturers, federal facilities, and other industrial parties whose actions result in the release of significant amounts of PFAS
 - EPA has choice to exercise enforcement discretion with respect to certain sectors/entities
 - Water utilities and POTWs
 - Publicly owned/operated MSW landfills
 - Farms that apply biosolids
 - Certain airports and fire departments
 - Potentially develop equitable factors to be used on a case-by-case basis
 - EPA may settle and provide CERCLA contribution protection to some parties
- Legislation?

Minnesota Environmental Response and Liability Act (MERLA): PFAS Regulatory Status and Ongoing Developments



- “Minnesota has an established history of responding to PFAS contamination through the remediation and redevelopment programs using its authority under [MERLA].”

[MPCA PFAS Monitoring Plan, Appendix E](#)

- MPCA’s position is that PFAS are hazardous wastes as defined in Minn. Stat. § 116.06, subd. 11(b) and are thus hazardous substances under MERLA (Minn. Stat. § 115B.02, subd. 8)
- Remediation Program evaluates PFAS in the same manner as any other hazardous substance resulting in a release to the environment

MERLA: Hazardous Substance Definition

Subd. 8. Hazardous substance.

"Hazardous substance" means:

- (1) any commercial chemical designated pursuant to the Federal Water Pollution Control Act, under United States Code, title 33, section 1321(b)(2)(A);
- (2) any hazardous air pollutant listed pursuant to the Clean Air Act, under United States Code, title 42, section 7412; and
- (3) **any hazardous waste.** (*Emphasis added.*)

Hazardous substance does not include natural gas, natural gas liquids, liquefied natural gas, synthetic gas usable for fuel, or mixtures of such synthetic gas and natural gas, nor does it include petroleum, including crude oil or any fraction thereof which is not otherwise a hazardous waste.

MERLA: Hazardous Waste Definition

Minn. Stat. § 115B.02, Subd. 9. **Hazardous waste.**

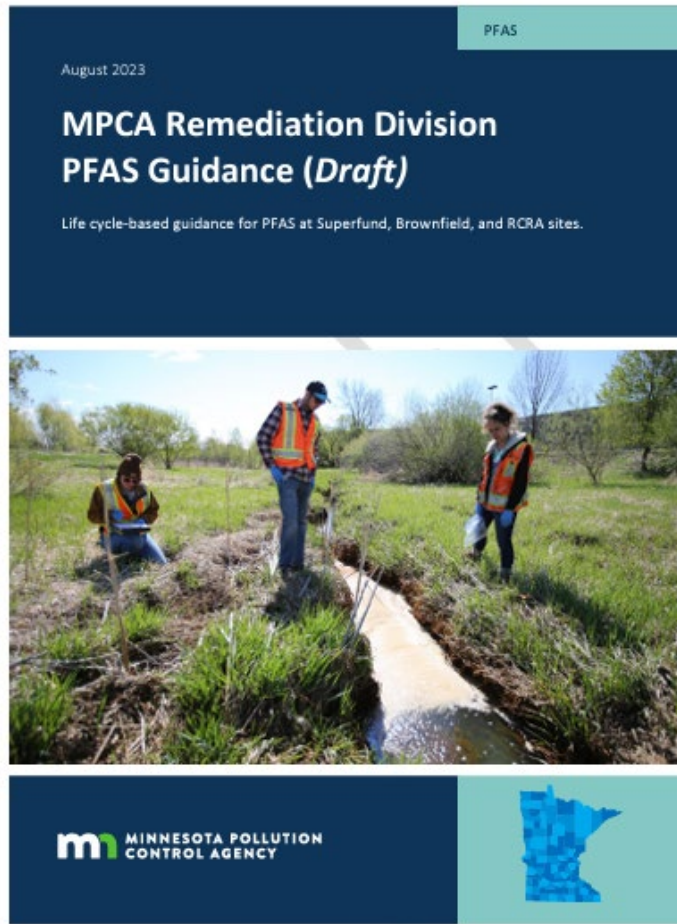
"Hazardous waste" means:

- (1) **any hazardous waste as defined in section [116.06, subdivision 11](#)**, and any substance identified as a hazardous waste pursuant to rules adopted by the agency under section [116.07](#); and
- (2) any hazardous waste as defined in the Resource Conservation and Recovery Act, under United States Code, title 42, section 6903, which is listed or has the characteristics identified under United States Code, title 42, section 6921, not including any hazardous waste the regulation of which has been suspended by act of Congress. (*Emphasis added.*)

Minn. Stat. § 116.06, Subd. 11. **Hazardous waste.**

"Hazardous waste" means any refuse, sludge, or other waste material or combinations of refuse, sludge or other waste materials in solid, semisolid, liquid, or contained gaseous form which because of its quantity, concentration, or chemical, physical, or infectious characteristics may (a) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or **(b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.** Categories of hazardous waste materials include, but are not limited to: explosives, flammables, oxidizers, poisons, irritants, and corrosives. Hazardous waste does not include source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended. (*Emphasis added.*)

MPCA Remediation Division PFAS Guidance (Draft)



- [Draft Guidance](#) issued August 2023
 - Structured with respect to “life-cycle stages” and “cross-cutting areas”
 - LCSs: Desktop Review, Site Investigation, Risk Assessment, Remediation and Site Closure
 - CCAs: Risk Assessment, PFAS Disposal, Brownfield Assurances, Communications, Environmental Justice
- [Comment period](#) closed October 2023
- The MPCA’s PFAS Monitoring Plan indicated that the PFAS Guidance would be implemented in 2023; we are aware of no formal timing updates, but we last heard that the PFAS Guidance was nearly final and would likely be issued this month (March 2024)
- Until the final PFAS Guidance are issued, refer to the PFAS Monitoring Plan for relevant criteria

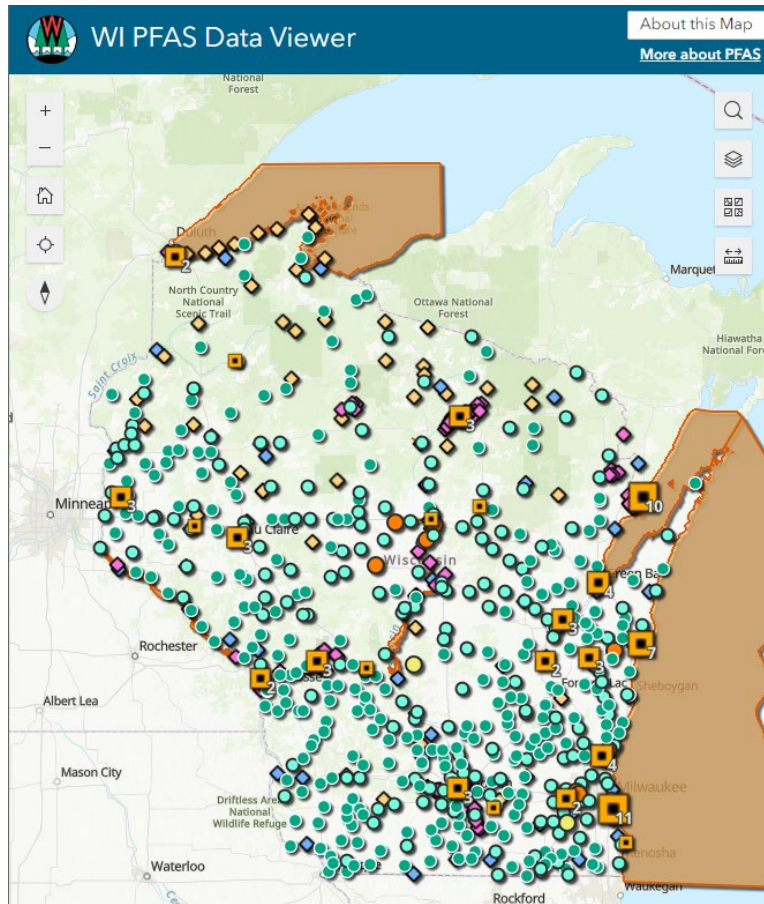
Wisconsin Spills Law: Hazardous Substance Definition

- “Hazardous substance” means any substance or combination of substances including any waste of a solid, semisolid, liquid or gaseous form which may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or which may pose a substantial present or potential hazard to human health or the environment because of its quantity, concentration or physical, chemical or infectious characteristics. This term includes, but is not limited to, substances which are toxic, corrosive, flammable, irritants, strong sensitizers or explosives as determined by the department. (Wis. Stat. § 292.11(5))
- A person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance shall notify the department immediately of any discharge. (Wis. Stat. § 292.11(2)(a))

Wisconsin Spills Law: Emerging Contaminants

- “In Wisconsin, persons who own properties that are the source of PFAS contamination, or who are responsible for discharges of PFAS to the environment, are responsible for taking appropriate actions. Those individuals must also immediately notify the state, conduct a site investigation, determine the appropriate clean-up standards for the PFAS compounds in each media impacted (e.g., soil, groundwater, surface water and sediment) and conduct the necessary response actions.”
(<https://dnr.wisconsin.gov/topic/PFAS/Cleanup.html>)
- *WMC & Leather Rich, Inc. v. DNR*

Wisconsin Spills Law: The Pickle



<https://dnr.wisconsin.gov/topic/PFAS/DataViewer>



Should I sample?



Should I report?



If I report, what investigation is required?



When is remediation complete?

Pending Safe Drinking Water Act Limits and Their Implications



National Primary Drinking Water Regulations

- Mandated by the 1974 Safe Drinking Water Act, 42 U.S.C. § 300f et seq.
- Apply to Public Water Systems:
 - “A system for the provision to the public of water for human consumption through pipes or...other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.”
- Implemented by EPA, states and public water systems

National Primary Drinking Water Regulations, cont.

- First step: “Maximum Contaminant Level Goal” (MCLG)
 - Non-enforceable maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on human health would occur. Based solely on public health.
- Second step: “Maximum Contaminant Level” (MCL)
 - Enforceable maximum permissible level of a contaminant in water which is delivered to any user of a public water system.
 - Set as close to MCLG as possible, considering best available technology or treatment approaches, as well as cost.

Proposed PFAS Drinking Water Regulations (March 2023)

PFAS Compound	Proposed MCLG (Non-Enforceable)	Proposed MCL (Enforceable)
PFOA	Zero	4.0 parts per trillion (ppt) (aka ng/L)
PFOS	Zero	4.0 ppt
PFNA	1.0 (unitless) Hazard Index	1.0 (unitless) Hazard Index
PHHxS		
PFBS		
GenX Chemicals (HFPO-DA)		

NPDWRs for PFOA and PFOS

- Maximum Contaminant Level Goal (MCLG): **Zero**

“EPA has determined that PFOA and PFOS are likely to cause cancer (e.g., kidney and liver cancer) and that there is no dose below which either chemical is considered safe.... Therefore, EPA is proposing to set the health-based value, the MCLG, for both of these contaminants at zero.”
- Maximum Contaminant Level (MCL): **4.0 ppt**

“Considering feasibility, including currently available analytical methods to measure and treat these chemicals in drinking water, EPA is proposing individual MCLs of 4.0 nanograms per liter (ng/L) or parts per trillion (ppt) for PFOA and PFOS.”

–88 Fed. Reg. 18639, 18639 (Mar. 29, 2023)

NPDWR for PFNA, PFHxS, PFBS and GenX Chemicals

- Often present in drinking water, but at lower levels. Toxic, but less so than PFOA and PFOS.
- Have an additive toxic effect when combined
- MCL based on a Hazard Index (HI) of 1.0
- Health Based Water Concentration (HBWCs): PFHxS (9 ppt), HFPO–DA (10 ppt), PFNA (10 ppt), PFBS (2000 ppt)
- Measured concentration divided by HBWC = Hazard Quotient (HQ)
- If sum of HQs exceeds 1.0, the water exceeds the MCL

Example PFAS Hazard Index Calculation

PFAS	Measured Concentration	Health Based Water Concentration	Hazard Quotient (HQ) (Measured Concentration/HBWC)	Hazard Index (sum of HQ's)
PFHxS	4 ppt	9 ppt	0.4	1.75
PFNA	2 ppt	10 ppt	0.8	
HFPO-DA	3 ppt	10 ppt	0.3	
PFBS	500 ppt	2000 ppt	0.25	

Additional Requirements of the Proposed PFAS NPDWR

- PFAS Monitoring Requirements for Public Water Systems
- Public Notification if PFAS levels exceed an MCL
- Upon exceedance of MCL, must install treatment or take other action to come into compliance

Costs of PFAS Treatment to Meet the MCLs



- “For the City of Columbia, South Carolina, implementing this new MCL limit would require **adding new treatment capabilities estimated to cost the municipality \$150 million**. On top of that, the additional operation and maintenance costs would be \$20 million annually, **increasing annual treatment costs from \$17 million to \$37 million**.... Ratepayers – the citizens of Columbia – will have to help foot this hefty bill.”

–Rickenmann, et al, “EPA Has Miscalculated a Major Water Pollution Problem” (Real Clear Policy, 3-4-2024)

Status of the Proposed PFAS NPDWR

- Originally planned for late 2023, but delayed
- December 2023: Sent for Whitehouse interagency review
- March 3, 2024: House and Senate appropriators direct GAO to examine costs of proposed regulation
- Coming any day now...maybe

Other Ramifications of the Proposed PFAS NPDWR

- Example: Minnesota **Class 1 Water Quality Standards**
 - Incorporate federal MCLs by reference, Minn. R. 7050.0221, subp. 1(A)
 - PFAS MCLs will become Minnesota Class 1 WQS
 - Could be basis for NPDES permit limits, TMDLs, etc.
- Also could be used as “**Applicable or Relevant and Appropriate Requirements**” (ARAR) in CERCLA clean-ups

Current Trends in PFAS Litigation



Types of PFAS Class Actions

- Environmental – claims for water or air pollution
 - Claims are typically brought by State Attorneys General for natural resources and other damages, or by public water suppliers seeking drinking water testing and costs
- Marketing – deceptive marketing, greenwashing allegations, negligent misrepresentation, unjust enrichment, and state consumer protection claim
 - Claims generally focus on economic harm of purchase or impact on the environment
 - Some claims relate to failure to disclose
- Personal injury – failure to warn, design defect, breach of implied or express warranty, negligence, and other torts
 - Claims tend to focus on health exposures or economic harms



Status of Recent Litigation

- Within the last 5 years, there were active or recently settled PFAS cases across 24 states
- Approximately half of those cases were at one point transferred to the Multi-District Litigation in the U.S. District Court for the District of South Carolina
- *Aqueous Film-Forming Foams Products Liability Litigation*, MDL No. 2873
 - Hundreds of cases remain active in the MDL
 - Two large proposed settlements in 2023, totaling over \$12B

PFAS Litigation in Minnesota

- Minnesota Attorney General sued in 2010 alleging that 3M's production of PFAS damaged drinking water and natural resources in the Twin Cities area
- Case settled in 2018 for \$850 million. The October 2023 [Legislative Report](#) on settlement spending shows the cost of PFAS Remediation:
 - Oakdale and St. Paul Park spent nearly \$700,000 in 6 months to maintain granular activated carbon filters
 - East metro communities spent nearly \$10,000,000 on planning and design for water treatment

PFAS Litigation in Wisconsin

- In 2021, Wisconsin Attorney General hired private firm to pursue PFAS litigation.
- Wisconsin Attorney General filed suit against Tyco, Chemguard, 3M, DuPont and others for contamination near Tyco facility in Marinette, WI.
- Other municipalities have also sued 3M and others for contamination in specific locations.
- Class action case filed based on alleged contamination.

Mitigating Risk for Litigation

- Review marketing practices
- Evaluate historic practices
- Evaluate supply chain and vendors

Transactional Considerations



PFAS Liability Identification, Allocation and Mitigation

PFAS in Industry and Consumer Products

FluoroTechnology Makes Possible Important Products in Vital Industries

American Chemistry Council

FluoroTechnology is essential to the reliable and safe functioning of products used by consumers and industry every day. When fluorine and carbon atoms join, they form a powerful chemical bond, giving materials strength, durability, heat resistance, and stability. Here are some common applications of FluoroTechnology:

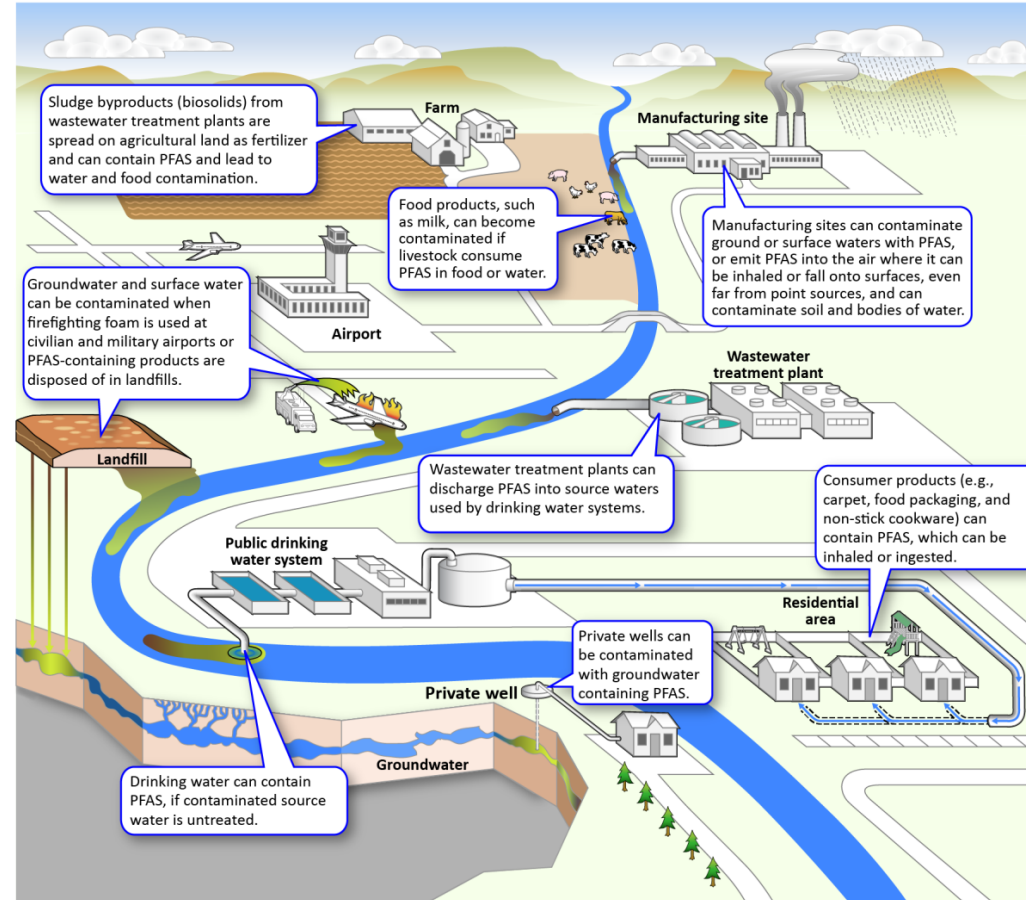
- ELECTRONICS**
Qualities: Insulation, durability, transparency, and water resistance
Example: Smooth and smudge-resistant touch screens
- HEALTHCARE**
Qualities: Insulation, durability, heat and chemical resistance, and disease transmission prevention
Examples: Defibrillators, pacemakers, MRI imaging devices, medical garments, and drapes
- ALTERNATIVE ENERGY**
Qualities: Insulation, durability, heat and chemical resistance
Examples: Lithium batteries, fuel cells, and solar panels
- FIRST RESPONDERS**
Qualities: Heat resistance, insulation
Examples: Safety gear used to protect emergency responders and medical personnel
- AUTOMOTIVE**
Qualities: Durability, heat and chemical resistance, and oil, soil, and water repellence
Examples: Vapor barriers, engine compartment wirings and gauges, and automobile carpets and seats
- CHEMICAL/PHARMACEUTICAL MANUFACTURING**
Qualities: Heat and corrosion resistance
Examples: Chemical coatings, linings, and equipment
- SEMICONDUCTORS**
Qualities: Durability and heat and chemical resistance
Examples: Micro-electronics, plasma machinery, etching materials, cleaning fluids, and wetting surfactants for chemical etchants
- MILITARY**
Qualities: Durability and heat and chemical resistance
Examples: Safety equipment in extreme environments and against chemical warfare agents
- BUILDING/CONSTRUCTION**
Qualities: Durability, UV resistance, corrosion resistance
Examples: Infrastructure, facades, and surfaces
- OIL AND GAS**
Qualities: Durability and heat and chemical resistance
Examples: Oil field and pipeline operations safety equipment, fuel system seals and hoses, O-rings, and downhole field equipment gaskets
- AEROSPACE/DEFENSE**
Qualities: Chemical resistance, weather resistance, and insulation
Example: Fluid seals, hydraulic fluids used in aircraft control systems, and aircraft communications and navigation systems

PFAS

- FIREFIGHTING FOAMS
- WATER RESISTANT CLOTHING
- PAINT
- PERSONAL CARE PRODUCTS
- COSMETICS
- NON-STICK COOKWARE
- PHOTOGRAPHY
- FAST FOOD PACKAGING
- PESTICIDES
- STAIN RESISTANT FURNITURE
- STAIN RESISTANT PRODUCT
- MICROWAVE POPCORN BAGS

Environmental and Human Exposure Pathways

Figure 1: Per- and polyfluoroalkyl substances (PFAS) can enter the environment and cause human exposure in a variety of ways



Source: GAO. | GAO-22-105088

PFAS Due Diligence: Scoping and Strategy

- Appropriately scope due diligence to cover material PFAS risks.
Examples:
 - Contamination/Cleanup – Both On- and Off-Site
 - Environmental Compliance – Current and Expected Frameworks
 - Product and Supply Chain
 - Litigation/Enforcement
- Have an advance strategy for acquiring, reflecting, and addressing PFAS data and information.
 - Understand related obligations/triggers, liability considerations, and your planned approach to same.

Transactional Toolbox: Allocating and Mitigating Liability



- Contractual Protections and Remedies
- Liability Defenses and Assurances
- Insurance

Presenters



Delanie Breuer
Attorney
608.453.5135
dbreuer@fredlaw.com



Michael Cummings
Attorney
612.492.7391
mcummings@fredlaw.com



Devin Driscoll
Attorney
612.492.7294
ddriscoll@fredlaw.com



Jeremy Greenhouse
Attorney
612.492.7175
jgreenhouse@fredlaw.com



William Hefner
Attorney
612.492.7047
whefner@fredlaw.com



Shantal Pai
Attorney
612.492.7437
spai@fredlaw.com



Lindsey Remakel
Attorney
612.492.7454
lremakel@fredlaw.com

Thank you!

Fredrikson

Where Law and Business Meet[®]