

PFAS Background and Proposed Rule

Understanding the Impact

Outline

Contaminant Information

Rule Overview

Treatments

Timelines

Accessing Results

Questions

What is PFAS?

- Per- and polyfluoroalkyl substances
- PFAS are a category of manufactured chemicals with widespread use since the 1940s
- Generally, break down extremely slow in the environment; highly persistent
 - Half-life of long chain PFAS, such as PFOS, in the human body is upwards of 5 years
- Emerging contaminant





Non-stick
cookware



Firefighting
foams



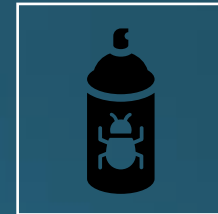
Fast food
packaging



Stain resistant
products



Electronics



Pesticides

Common Sources & Historical Uses

Possible Exposures



Working in occupations such as firefighting or chemical manufacturing



Drinking water contaminated with PFAS



Eating certain foods that may contain PFAS, such as fish



Swallowing contaminated soil or dust

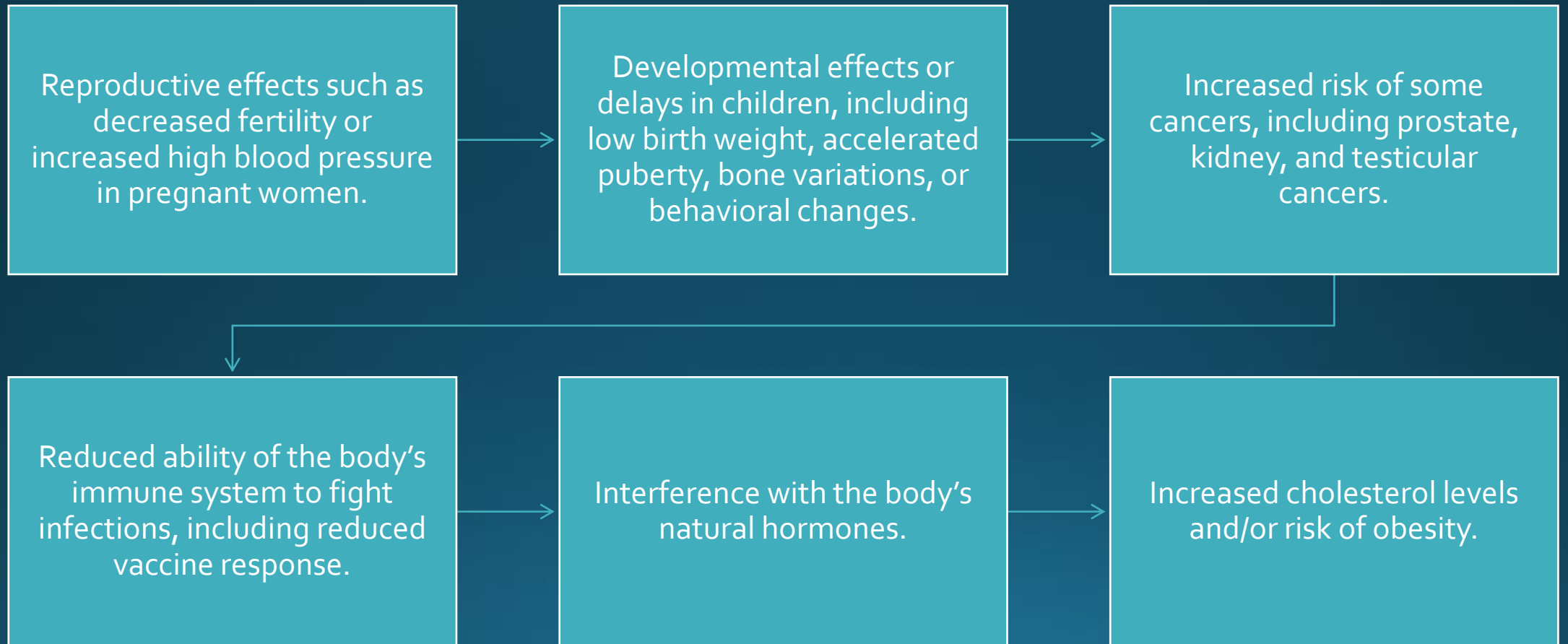


Breathing air containing PFAS



Using products made with PFAS or packaged in PFAS-containing materials

Health Effects

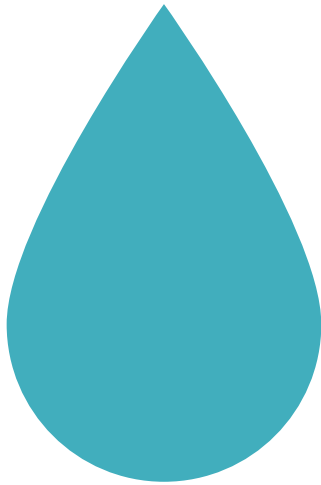


PFAS Monitoring in Texas

- Unregulated Contaminant Monitoring Rule (UCMR)
 - Third Unregulated Contaminant Monitoring Rule (UCMR3)
 - Fifth Unregulated Contaminant Monitoring Rule (UCMR5)
- City of Fulshear is scheduled to participate in UCMR5 monitoring in March and September 2025

Final PFAS Rule Overview

PFAS NPDWR Overview



- Publication Date: April 26, 2024
- Effective Date: June 25, 2024
- Applies to Community (CWS) and Non-Transient, Non-Community (NTNC) Water Systems
- PWS Requirements
 - Monitoring and reporting
 - Public notification
 - Reduce levels exceeding proposed standards

MCLs and MCLGs

PFAS Compound	Proposed MCLG	Proposed MCL
PFOA (perfluorooctanoic acid)	0 ppt	4.0 ppt (ng/L)
PFOS (perfluorooctane sulfonic acid)	0 ppt	4.0 ppt (ng/L)
PFNA (perfluorononanoic acid)	10 ppt	10 ppt (ng/L)
PFHxS (perfluorohexane sulfonic acid)	10 ppt	10 ppt (ng/L)
HPFPO-DA (hexafluoropropylene oxide dimer acid, Gen X)	10 ppt	10 ppt (ng/L)
Mixtures containing two or more Of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard Index	1 (unitless) Hazard Index

Hazard Index

- PWS monitors for the 4 PFAS and insert results into a formula based on the Health-Based Water Concentration (HBWC).
 - HBWC: level at which no health effects are expected for that PFAS

PFAS Compound	Health-Based Water Concentration (ppt)
PFHxS	9.0
Gen X chemicals	10
PFNA	10
PFBS	2000

Hazard Index cont.

- Applies to any mixtures containing two or more of PFNA, PFHxS, PFBS, and GenX Chemicals
- If mixture contains PFAS at levels which result in a Hazard Index greater than 1.0, it would be in exceedance of the MCL
- Compliance is determined by a running annual average

Calculation

$$\text{Hazard Index} = \frac{PFHxS}{9.0 \text{ ppt}} + \frac{PFNA}{10.0 \text{ ppt}} + \frac{GenX}{10.0 \text{ ppt}} + \frac{PFBS}{2,000.0 \text{ ppt}}$$

Monitoring Requirements – Initial

Groundwater/Groundwater Purchase with population under 10,000

- 2 samples/year at each entry point to the distribution system

Groundwater/Groundwater Purchase with population greater than or equal to 10,000

- 4 samples/year at each entry point to the distribution system

Surface Water or Groundwater Under Influence of Surface Water/Purchase

- 4 samples/year at each entry point to the distribution system

Monitoring Requirements - Reduced

- Initial monitoring results are below rule trigger level which is one-half (1/2) of the MCLs
 - 2.0 ppt for PFOA/PFOS, 5 ppt for PFHxS/PFNA/GenX and 0.5 for Hazard Index
- Entry point specific determination

All Water Systems

- 1 sample every 3 years

Monitoring Requirements - Exceedance

Quarterly Monitoring

Sample(s) greater than or equal to rule trigger level at EPTDS

2.0 ppt for PFOS or PFOA

5 ppt for PFHxS/PFNA/GenX, or

0.5 on Hazard Index PFAS

Rule Violation

- Rule violation if running annual average at entry point is greater than MCL



Monitoring Requirements- Reduced After Exceedance

- If four consecutive quarterly samples are below the MCLs, monitoring can shift to annual. After three consecutive annual samples below the rule trigger levels for all regulated PFAS, monitoring can be reduced to once every three years

Treatment Options

Treatment Method	Pros	Cons
Granular Activated Carbon (GAC)	• Better at removing long-chain PFAS • Less Energy intensive than RO • Media may be replaced	• Less effective for short-chain PFAS • Pressure vessel or independent treatment unit must be added • Media disposal may be an issue
Anion Exchange (AIX)	• Short-chain PFAS are more likely to be removed	• Disposal of the resin is an issue
Nanofiltration/Reverse Osmosis (NF/RO)	• Effective in removing long and short-chain PFAS	• Energy intensive and costly • Disposal of wastes may add to cost

- PWSs with PFAS levels exceeding the MCL(s) would be required to act (e.g. install treatment or consider other options such as source remediation or connection to an uncontaminated source)
- EPA is proposing the following as best available treatments (BAT) for PFAS removal from drinking water:

Overview of TCEQ Comments

- Analytical Concerns
- Compliance Standard – Hazard Index
- Risk Communication
- Economic Analysis
- Additional Guidance & Clarification

PFAS Rule: Important Dates

**WITHIN
3 YEARS**
(By 2027)



- CWSs and NTNCWSs must conduct initial monitoring or obtain approval to use previously collected monitoring data

**AT
3 YEARS**
(Starting 2027)



- CWSs and NTNCWSs must start their ongoing compliance monitoring
- CWSs and NTNCWSs must include results of their monitoring for the regulated PFAS in their [Consumer Confidence Reports](#) (CCRs)
- CWSs and NTNCWSs must start issuing public notification for any monitoring and testing procedure violations

**AT
5 YEARS**
(Starting 2029)



- CWSs and NTNCWSs must comply with all regulated PFAS Maximum Contaminant Levels (MCLs)
- CWSs and NTNCWSs must provide public notification for violations of the PFAS MCLs

Helpful Links

- Occurrence Data from the Unregulated Contaminant Monitoring Rule
 - <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule#5>
- UCMR 5 Data Finder
 - <https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule-data-finder>
- Final PFAS Regulation
 - <https://www.federalregister.gov/documents/2024/04/26/2024-07773/pfas-national-primary-drinking-water-regulation>



Questions