

# EPA Proposed National Primary Drinking Water Regulations for PFAS



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# EPA Proposed PFAS NPDWR

- Released March 14, 2023
- **Draft Regulations, Not Enforceable Until Final**
- Applicable to COM and NTNC PWS (Not TNCs)
  - Same as the MA PFAS6 Rule
- Published in Federal Register March 29, 2023
- Comment Period Ended May 30, 2023
- Final Expected Late 2023/Early 2024

# EPA Proposed PFAS MCLGs and MCLs

PFAS	MCLG	MCL
PFOA	0	4.0 ppt
PFOS	0	4.0 ppt
PFBS	1.0 (unitless) Hazard Index	1.0 (unitless) Hazard Index
PFNA		
GenX (HFPO-DA)		
PFHxS		

# What is a Hazard Index?

- Tool Used to Evaluate Health Risks of Simultaneous Exposure to Mixtures of Related Chemicals
- Used in Other EPA Programs, such as CERCLA, but this is the First Time it is Proposed for a Drinking Water Standard
- Compares Levels of Each of the Four PFAS to Individual Health-Based Water Concentrations (HBWC) to give Hazard Quotients
- Sum the 4 Hazard Quotients to give Hazard Index (HI)
- EPA is Developing an Online Calculator

# Hazard Index Calculation

**Step 1.** Divide the measured concentration of Gen X by the health-based value of 10 ppt

**Step 2.** Divide the measured concentration of PFBS by the health-based value of 2000 ppt

**Step 3.** Divide the measured concentration of PFNA by the health-based value of 10 ppt

**Step 4.** Divide the measured concentration of PFHxS by the health-based value of 9 ppt

**Step 5.** Add the ratios from steps 1, 2, 3 and 4 together

## Equation

$$\text{Hazard Index} = \left( \frac{[\text{GenX}_{\text{water}}]}{[10 \text{ ppt}]} \right) + \left( \frac{[\text{PFBS}_{\text{water}}]}{[2000 \text{ ppt}]} \right) + \left( \frac{[\text{PFNA}_{\text{water}}]}{[10 \text{ ppt}]} \right) + \left( \frac{[\text{PFHxS}_{\text{water}}]}{[9.0 \text{ ppt}]} \right)$$

**Step 6.** To determine HI compliance, repeat steps 1-5 for each sample collected in the past year and calculate the average HI for all the samples taken in the past year.

**Step 7.** If the running annual average HI greater than 1.0, it is a violation of the proposed HI MCL.

# Proposed Monitoring Requirements

- **Initial Monitoring**

- 4 Consecutive Quarterly Samples for Groundwater PWS Serving > 10,000 and all Surface Water PWS
- 2 Samples, 90+ Days Apart, Over 12-Months for Groundwater PWS Serving  $\leq$  10,000

**OR**

- An Equivalent Number of Existing PFAS Results, Including UCMR5 or other Monitoring Data that Meets Specified Criteria

- **Compliance Monitoring**

- Quarterly Monitoring if the Result  $\geq$  Trigger Level
- Trigger Levels =  $1/3$  of the MCLs
  - 1.3 ppt for PFOA and PFOS
  - 0.33 (unitless) for HI PFAS

**OR**

- Once (PWS Serves  $\leq$  3300) or Twice (PWS Serves > 3300) in One Year of Every Three if the Result < Trigger Level

# Compliance with Proposed NPDWR

- Violations are Based on a Running Annual Average Calculated During Quarterly Monitoring
- PWS that Exceed Either MCL Must Install Treatment or Take Other Actions to Meet MCLs
- Best Available Technology (BAT)
  - Ion Exchange
  - Reverse Osmosis
  - Granular Activated Carbon
  - Nanofiltration
- MCL Violations Require Tier 2 Public Notice (30 day)

# EPA's Proposed MCLs Compared to MassDEP's PFAS6 MCL

- PFAS6 is Not the Same Six PFAS in EPA's Proposal
- PFAS6 MCL = 20 ppt for the Sum of Six PFAS
- PFHpA and PFDA in PFAS6 but Not in EPA's Proposal
- Gen-X (HFPO-DA) and PFBS in EPA's Proposal but Not in PFAS6
- PFAS6 MCL Compliance Uses a Quarterly Average
- All MA PWS Have Tested for All Six of the PFAS Included in EPA's Proposed Rule
  - Very Few Gen-X Detects, All Below HBWC of 10 ng/L
  - Lots of PFBS Detects, All Well Below HBWC of 2000 ng/L



# Massachusetts PFAS Regulations

- Remains the Same for Now, MassDEP is Evaluating the EPA Proposal and Will Consider it During Our Three-Year Review
- MassDEP Review
  - 310 CMR 22.07G(3)(e) “Review of PFAS and Drinking Water. Not later than December 31, 2023, and once every three years thereafter, the Department shall perform a review of relevant developments in the science, assessment and regulation of PFAS in drinking water for the purpose of evaluating whether to amend 310 CMR 22.07G(3) in light of any advancements in analytical or treatment technology, toxicology and/or any other relevant information. Information about this review shall be made available to the public.”
- MA Must Adopt Regulations No Less Stringent Than the Final EPA Rule (Primacy Requirement)
- States Have Up to Two Years to Develop Regulations Once the EPA Rule is Final

# MA PWS and the PFAS6 MCL

Type of Public Water Supplier	# PWS (non-consecutive)	# PWS with one or more results over MCL	% of PWS	# PWS currently over MCL	% of PWS currently over MCL
Community	449	85	19%	24	5%
Non-Transient Non-Community	234	38	16%	27	11%
Transient Non-Community*	734	47	6%	40	5%
Total	1417	170	12%	91	6%

\* The PFAS6 MCL does not apply to TNC PWS

# Approximate COM and NTNC PWS Exceeding the EPA MCLs

	Number of COM and NTNC PWS required to test for PFAS exceeding draft EPA MCL*	% of total COM and NTNC PWS required to test for PFAS exceeding draft EPA MCL
PWS currently over PFAS6 MCL and working with MassDEP to reduce levels	49	7%
PWS newly exceeding draft EPA MCL	149	22%
Total PWS exceeding draft EPA MCL	198	29%

\*Includes both PFOA, PFOS and HI impacted systems.

# MA PWS PFAS Impacts – Transient Non-Community (TNCs)

- EPA's Proposal is Not Applicable to TNCs
- MassDEP Regulation Required Baseline Sampling for All TNCs and Health Assessments by the Office of Research and Standards (ORS), as needed
- **113** TNCs Detected PFAS > Proposed EPA MCLs
  - **35** of which > PFAS6 MCL
- Reevaluate TNCs that Received Health Assessments
  - Any Others Identified by ORS

# MA PWS PFAS Impacts – PWS with Other PFAS Detections

- Laboratories Certified by MassDEP to Conduct PFAS Analysis Must be Able to Achieve a Minimum Reporting Level (MRL)  $\leq 2.0$  ppt for each PFAS in PFAS6
- **317** COM, NTNC and TNC PWS have Detected PFOA and/or PFOS  $> 2$  ppt but  $< 4$  ppt at one or more of their Finished Water Sources. MassDEP will also Contact these PWS to Discuss results, if needed
- MassDEP's Review of the PFAS6 MCL will Evaluate Options for PFHpA and PFDA
  - PFHpA:  $\sim 262$  PWS with Finished Water Detections  $> 2$  ppt
  - PFDA:  $\sim 6$  PWS with Finished Water Detections  $> 2$  ppt

# MA Private Well PFAS Impacts

- MassDEP Does Not Regulate Private Wells
- MassDEP Sampled 1,668 Private Wells through the PFAS Free Analyses Program
- 257 Private Wells (15%) Detected PFAS > the Proposed EPA MCLs
- MassDEP has Contacted all Participating Private Well Owners to Discuss How Their Results Compare to the Proposed EPA MCLs

# What is MassDEP doing?

- MassDEP DWP/ORS Comments Posted at <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>
  - Recommended Holistic Approach to PFAS Regulation; “Get Upstream of the Problem;” Prioritize Research on Waste Disposal; Issue Guidance including Risk Communications; Revisit Estimates of Burden on Primacy Agencies and Laboratory Capacity; Ensure Adequate Data Management Capabilities; Clarify Acceptable Analytical Methodology; Clarify Intent to Incorporate Additional PFAS into the HI; Select the Body Weight-Adjusted Drinking Water Intake for the Most Sensitive Population; Consider using Potency Subgroups in HI Calculation; etc.
- MassDEP will Consider EPA’s Proposal During our Three-Year Review of the Science as it Relates to MassDEP’s PFAS Regulations
- Together with the Clean Water Trust, MassDEP has Invested >\$230 Million in Funding for Communities to Address PFAS Contamination
  - Final 2023 IUP Issued April 10, 2023, Includes 25 PFAS Projects
- MassDEP is Not Accepting Applications for PFAS Monitoring Waivers
- **MassDEP will Reach out to PWS with PFAS Levels that Exceed the Proposed EPA MCLs and Provide Technical Assistance**

# What Should PWSs Do?

- **PFAS6 > PFAS6 MCL**
  - Continue to Work with MassDEP to Reduce PFAS
- **PFOA and/or PFOS > Proposed EPA MCLs or Combination of PFHxS, GenX, PFNA, and PFBS > Proposed EPA HI MCL**
  - Contact MassDEP to Discuss Plans to Remove PFAS Should the Proposed EPA MCLs Become Final
- **PFOA and/or PFOS > 2 ppt but < 4 ppt**
  - If Concerned, Contact MassDEP to Discuss Results
- **PFAS Non-Detect**
  - No Recommended Action
  - Keep Up to Date on PFAS Information from MassDEP



# What Should PWSs Do?

- Send Questions on Proposed EPA PFAS Regulations to the Drinking Water Program at [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov) Subject PFAS or call 617-292-5770
- Submitted Comments: [www.regulations.gov](http://www.regulations.gov)
  - Docket ID: EPA-HQ-OW-2022-0114
  - Public Hearing May 4, 2023 – Slides at <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>

# What To Tell Consumers?

- Use Information from EPA Fact Sheet to Respond to Questions on the EPA Regulatory Process.
  - EPA Q&A for Consumers:  
[https://www.epa.gov/system/files/documents/2023-04/Public%20FAQs\\_PFAS\\_NPDWR\\_Final\\_4.4.23.pdf](https://www.epa.gov/system/files/documents/2023-04/Public%20FAQs_PFAS_NPDWR_Final_4.4.23.pdf)
- For Assistance Contact the MassDEP Drinking Water Program at [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov) or at 617-292-5770

# Small Systems PFAS Grants

- On April 3, 2023, the Healey-Driscoll Administration Awarded > \$1 Million in Grants to **21** Small PWS (serving < 3,300)
- Funds for New Work or Reimbursement for Long-Term Actions that Address PFAS Contamination such as Construction of Treatment Systems or Connection to an Uncontaminated Water Supply
- Full list of awardees available at <https://www.mass.gov/news/healey-driscoll-administration-awards-1-million-to-help-small-public-water-suppliers-respond-to-pfas-contamination>

# Emerging Contaminants in Small or Disadvantaged Communities Grant Program

- On February 13, 2023, EPA Announced the Availability of the Emerging Contaminants in Small or Disadvantaged Communities Grant Program
- Provides States and Territories with Grants for PWS in Small or Disadvantaged Communities to Address Emerging Contaminants, including PFAS
- \$38,204,000 Allotted to Massachusetts for FYs 2022/2023
- Work may Include but is Not Limited to Testing, Planning & Design, Treatment, and PWS Consolidation & Creation
- **MassDEP DWP Surveyed all Eligible Systems to Collect Needs and is Assessing Responses**
- MassDEP Workplan was Submitted to EPA

# PFAS Resources

- EPA
  - PFAS Information: <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>
  - Fact Sheet - EPA Proposal to Limit PFAS in Drinking Water: [https://www.epa.gov/system/files/documents/2023-04/Fact%20Sheet PFAS NPDWR Final 4.4.23.pdf](https://www.epa.gov/system/files/documents/2023-04/Fact%20Sheet%20PFAS%20NPDWR%20Final%204.4.23.pdf)
  - FAQs - Proposed PFAS NPDWR: [https://www.epa.gov/system/files/documents/2023-04/Public%20FAQs PFAS NPDWR Final 4.4.23.pdf](https://www.epa.gov/system/files/documents/2023-04/Public%20FAQs%20PFAS%20NPDWR%20Final%204.4.23.pdf)
- MassDEP
  - PFAS Information: <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>
  - Contact MassDEP Drinking Water Program: [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov) or call 617-292-5770