



# Interim Health Advisory Levels: PFOA and PFOS

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## Interim Health Advisories for PFOA and PFOS recently released

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- EPA recently released a long-anticipated update to the Health Advisory Levels for PFOA and PFOS.
- HRSD appreciates this important preliminary step in addressing the public health concerns.
  - Understanding fate and transport of PFAS compounds through wastewater treatment and the SWIFT advanced water treatment process has long been a key area of HRSD collaborative research.
- Interim Lifetime Health Advisory Levels for PFOA and PFOS with PFOA at 0.004 ng/L (ppt) and PFOS at 0.02 ng/L.
- Draft MCLs for PFOA and PFOS anticipated to be issued by the end of this calendar year with final MCLs anticipated in 2023.
- EPA states that Health Advisory Levels are non-regulatory and non-enforceable.

## Science Advisory Board Input Pending

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- EPA is awaiting final Science Advisory Board report on EPA's "Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctanoic Acid (PFOA) in Drinking Water" and "Proposed Approaches to the Derivation of a Draft Maximum Contaminant Level Goal for Perfluorooctane Sulfonic Acid (PFOS) in Drinking Water" before finalizing Lifetime Health Advisory Level and completing regulatory action for MCL development.
- Based on EPA's additional work in response to the SAB's original comments, EPA anticipates that the final Lifetime Health Advisory Levels will remain below the EPA reported Minimum Reporting Level (MRL) of 4 ng/L.

# SWIFT Research Center: PFOA and PFOS monitoring

Quarterly Report	SWIFT Water		Groundwater – MW-UPA		Notes
	PFOA (ng/L)	PFOS (ng/L)	PFOA	PFOS	
May – August 2018	< 20	< 40	NM	NM	
September - November 2018	< 20	< 40	NM	NM	NM: Not monitored. Monitoring for PFOA and PFOS not initiated until SWIFT Water recharge front reached conventional well.
April - June 2019	< 2	< 2	NM	NM	
July – September 2019	< 2	< 2	NM	NM	
October – December 2019	< 2	< 2	<2	<2	Monthly monitoring of PFOA/PFOS initiated in MW-UPA
January – March 2020	5.3	< 2	<2	<2	
April – June 2020	5.7	< 2	<2	<2	
July – September 2020	6	< 2	<2	<2	Bromide introduced to the recharge well as part of a tracer study
October – December 2020	4.5	< 2	<2	<2	
April – June 2021	9.3	4.3	<2	<2	
July – September 2021	8.5	3.1	<2	<2	
October – November 2021	< 2	< 2	<2	<2	
January – March 2022	4	< 2	<2	<2	
April – June 2022	8.4	< 2	Pending	Pending	Bromide from tracer study identified in MW-UPA in April 2022

SWIFT Water recharged from May 2018 – September 2020 has traveled to the MW-UPA conventional well.

Note: EPA reported MRL of 4 ng/L was identified through a multi-laboratory MRL-setting study for PFOA and PFOS for EPA 533. HRSD's contract laboratory achieves an MRL of 2 ng/L.

## Additional Barrier of Protection through Soil Aquifer Treatment

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- The aquifer system provides an additional barrier of protection for drinking water users through soil aquifer treatment
- Bromide introduced to the recharge well as part of the bromide tracer study in July 2020 was seen in the MW-UPA conventional well in April 2022 after recharging approximately 230 million gallons.
- PFOA and PFOS in MW-UPA and MW-MPA remains < 2 ng/L indicating additional removal through soil aquifer treatment.
- No private well users withdrawing from the Potomac Aquifer System within a three-mile radius of either the James River or Nansemond treatment facilities.
  - Travel time at the Research Center is estimated at 10 years to travel 2,000 ft.

## HRSD Current and Future Efforts

- Source control is one of the key elements in our SWIFT program.
  - HRSD's Pretreatment and Pollution Prevention division actively working to identify industrial sources of PFAS and engaged in collaborative research to further enhance our ability to identify sources.
  - In addition to HRSD regulatory authority to control source of PFAS into our system, industries nationwide are actively working to identify and control sources of PFAS within their processes.
  - Source control is anticipated to further contribute to reductions of PFAS in wastewater.
- HRSD is planning pilot studies at the SWIFT Research Center to look at benefits of Ion Exchange (IX) following granular activated carbon.
  - GAC and IX are both noted as effective treatments for PFOA and PFOS.
- HRSD is moving to a fluorine free alcohol resistant aqueous film forming foam (AR-AFFF) for the new methanol system at James River.
  - Significant innovation requiring building code modification
  - HRSD will roll out to other facilities based on what we learn from James River installation

## HRSD Draft James River UIC Permit

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- The draft UIC permit includes a reopen clause to make necessary updates to PFOA and PFOS based on the issuance of an updated HAL or PMCL.
  - HRSD will be commenting that given the pending regulatory action for PFOA and PFOS (draft PMCL anticipated by the end of this calendar year), that EPA consider waiting to reopen the permit until the enforceable PMCLs are released.
  - James River SWIFT will not be discharging until 2026.
  - The interim HALs are below the MRL and current approved methods can't be used to evaluate compliance with the interim HALs.
- Draft indicates that compliance is evaluated based on a single sample result.
  - HRSD plans to comment that the compliance evaluation for a Lifetime HAL is more appropriately considered as a running annual average as opposed to a single sample result.