

PFAS UPDATE

Navigating the New Frontier in Environmental Regulation

Presented by:

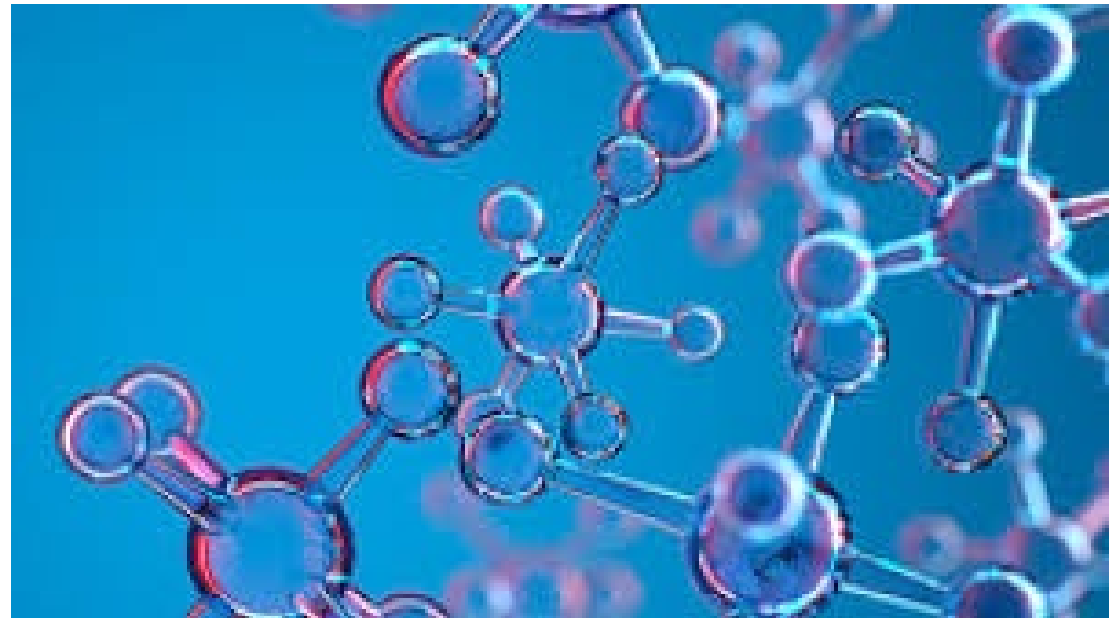
ANNMARIE SANFORD

Member | Troy, MI

March 28, 2023

AGENDA

- INTRODUCTION
- USEPA REGULATORY ACTIONS
- PRACTICAL IMPLICATIONS



INTRODUCTION

- BACKGROUND
- EPA PFAS ROADMAP FOR 2023
- EPA PROPOSED NATIONAL ENFORCEMENT AND COMPLIANCE INITIATIVES FOR PFAS



EPA Priorities

- PFAS ROADMAP: 2023 PRIORITIES
 - National Drinking Water Standard for PFOA and PFOA
 - Finalize CERCLA Hazardous Substance Designations
 - Improve Chemical Data and Safety
 - Restrict Upstream Discharges
 - Address PFAS in Biosolids
- Proposed National Enforcement and Compliance Initiatives (“NECI”) FY 2024-2027

EPA REGULATORY ACTIONS



- Maximum contaminant levels (“MCLs”)
 - PFOA: 4 ppt
 - PFAS: 4 ppt
- Maximum contaminant level goals (“MCLGs”)
 - PFOA: 0
 - PFOS: 0
- Hazard Index of 1.0 as the MCLG for mixtures of PFHxS, GenX, PFNA and PFBS

- PFOA and PFOS designated by rule as “hazardous substances”
- Potential significant costs
- Unintended consequences
- EPA considering exercising enforcement discretion for various sectors
- Several sectors seeking a legislative liability exemption
- Expected to be finalized by August 2023
- Expect immediate court challenges

- Urges states to include PFAS effluent limits in NPDES permits
 - Monitoring requirements for 40 PFAS parameters
 - BMPs related to PFAS
- POTWs to identify industrial users that could be PFAS sources
- Reduce PFAS in biosolids

- PFAS effluent guidelines and pretreatment standards for landfills to be developed
- EPA to expand study of PFAS usage in the textile mills category
- POTW influent study on industrial discharges of PFAS to be conducted

- Requires reporting of PFAS manufactured or imported since January 1, 2011
- 1,364 PFAS constituents
- No exemptions for *de minimis* amounts of PFAS
- ARTICLES ARE INCLUDED
- Cost: Original EPA estimate \$10.8 MM; updated \$875 MM
- EPA missed statutory deadline of January 1, 2023 to finalize rule

- End *de minimis* exemption for PFAS from Toxic Release Inventory (“TRI”) reporting
 - Current *de minimis* level for PFOA is 0.1%
 - All other PFAS have a *de minimis* level of 1%
- Remove the availability of the *de minimis* exemption for purposes of the Supplier Notification Requirements for all chemicals on the list of chemicals of special concern

RCRA

- EPA previously indicated it will start a rulemaking process to regulate 4 PFAS under RCRA:
 - PFOA
 - PFOS
 - PFBS
 - GenX

PRACTICAL IMPLICATIONS



THANK YOU

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Site Investigation and Remediation for PFAS Sources

32nd Annual Business & Industry's Sustainability & Environmental Health & Safety Symposium

Sharonville Convention Center, Cincinnati, Ohio

March 28, 2023



Jed Smith PG, CPG, PMP – AECOM
Senior Project Manager

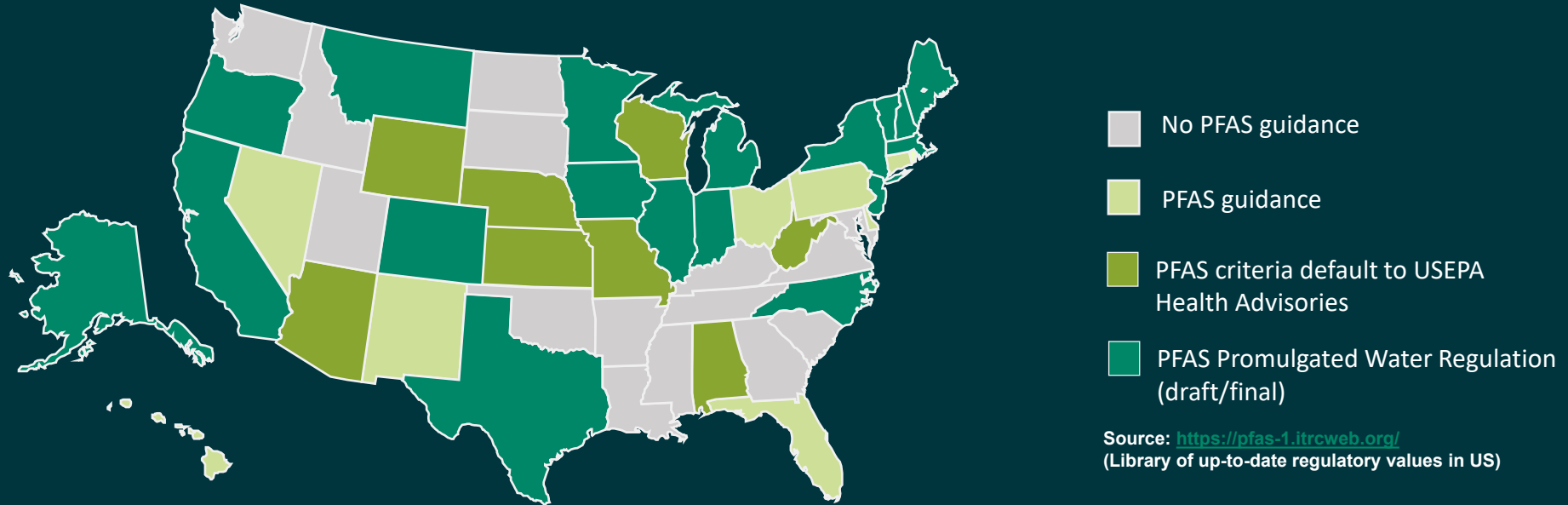
Agenda

- ❖ Regulation Snapshot and updated MCLs
- ❖ Sampling Technique Considerations and Priorities
- ❖ State of Current Remediation and Treatment Options

Regulatory Snapshot

PFAS Regulations: States All Over the Map

2022 States with Guidance



- 18 states have fully promulgated criteria for water
- 6 states have drinking water limits lower than USEPA Health Advisories
- 6 states have criteria for multiple PFAS compounds
- North Carolina, Hawaii, Ohio and Michigan are the only states to regulate GenX
- Texas Commission on Environmental Quality (TCEQ) has groundwater criteria for 16 PFAS
- More States adding regulations in 2023
- New Federal MCLs and Hazard Index for 2023

Site Investigations and Priorities

Potential Industrial and Governmental PFAS Source Sites



Airports



Military Bases



Chemical Manufacturing



Aqueous Film Forming Foam (AFF)



Metal Plating



Semiconductor



Pulp and Paper



Textiles

Site Investigative Techniques and Priorities

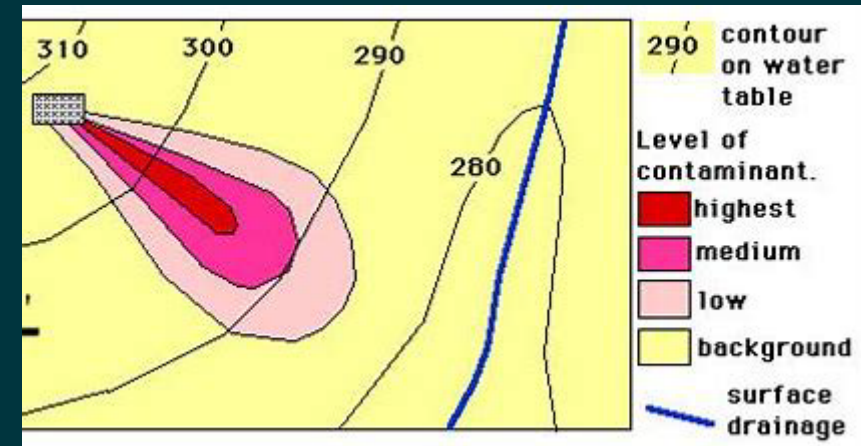


Site Investigative Techniques and Priorities

- ❖ Certified PFAS Free Sampling Materials
 - All Drilling Materials (Soil Sleeves, Pipe Dope)
- ❖ Decontamination Fluids and Cleaning Agents
 - Ensure testing of onsite source water or procure lab certified clean rinse water and PFAS free cleaning agents
- ❖ Use of HDPE jars, bottles and sample tubing
 - Make sure to remove any old dedicated tubing from existing wells that may be LDPE or Teflon lined in favor of HDPE tubing
- ❖ Steam Clean all reusable equipment

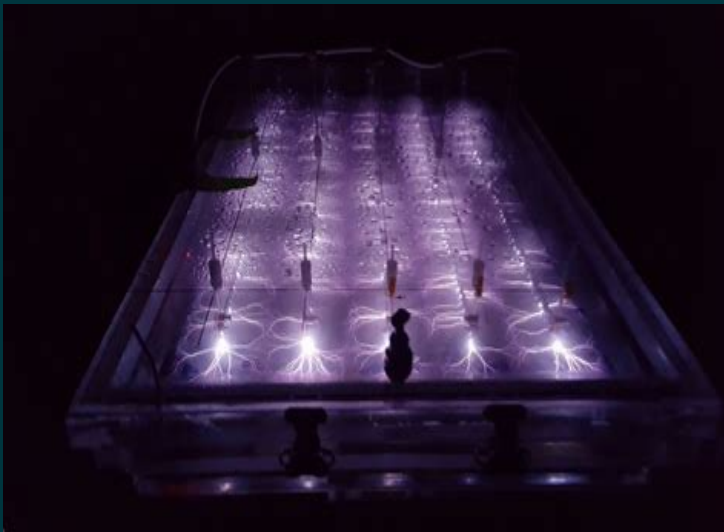
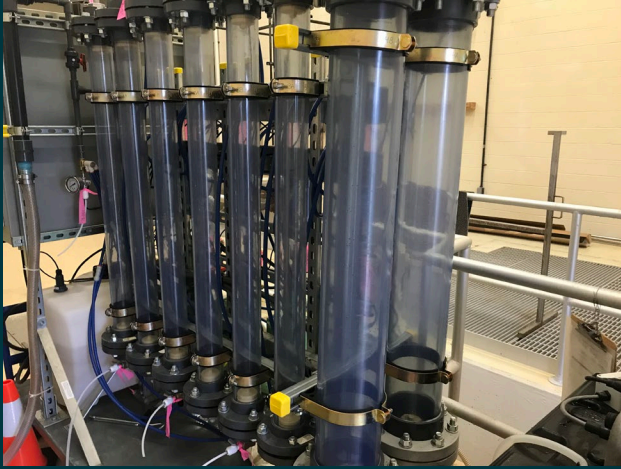
Site Investigative Techniques and Priorities

- ❖ Due to the extremely low MCLs (4 parts per trillion ppt) it is imperative to ensure cross contamination doesn't occur between wells or soil sampling points
- False Positives
- Skewed investigation results affecting future decisions
- Increased time and cost to clients



Remedial/Treatability Options

Remediation and Treatment



Remediation and Treatment Options

- ❖ Granulated Activated Carbon (GAC)

- Adsorption

- ❖ Plasma

- Destruction

- ❖ Resin Ion Exchange

- Adsorption and Ion Exchange of Ionized head

- ❖ Natural Attenuation????

- Promising studies showing some types of plants can absorb PFAS

End Game?

End Game and Disposal



End Game and Disposal

- ❖ With the exception of Plasma Destruction, the most current options still result in PFAS containing residues or residuals that need solidified and/or placed in Subtitle C Landfills
- ❖ Limited Subtitle C landfill options
- ❖ Lag Time in Acceptance in certain cases
- ❖ No Current Viable options for in-situ treatment for Groundwater*
- ❖ Continue Bench Scale tests for groundwater and soil for Future In-Situ options

Thank you.

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Biographical Information

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AnnMarie Sanford is a Member at Dickinson Wright PLLC, resident in its Troy office. Ms. Sanford is primarily engaged in environmental remediation, regulatory issues and counseling clients regarding compliance with federal and state chemical regulations. Before attending law school, she earned a Bachelor of Science degree in chemical engineering.

Since 1990, Ms. Sanford has represented clients at Superfund sites throughout the United States, Michigan Part 201 sites and sites under other state cleanup programs. Throughout her career, she has integrated her scientific technical knowledge into her practice to achieve favorable outcomes for clients. Ms. Sanford has significant experience advising clients regarding the many unique issues posed by emerging contaminants such as PFAS. For example, in connection with an NPDES permit renewal, she is advising a facility that generates a tremendous amount of PFAS-impacted stormwater, and advising several manufacturing facilities in responding to PFAS-impacted groundwater. She also is involved in negotiation of legislative changes to address consequences of overbroad PFAS regulation.

Ms. Sanford is active in the community and has served on the boards of non-profit organizations since 2010, including EcoWorks and Southwest Detroit Environmental Vision. Ms. Sanford also has been a LEED accredited professional since 2009. Ms. Sanford can be reached at ASanford@dickinsonwright.com.

**Jed Smith, PG, Sr. Environmental Project Manager
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Jed Smith is currently serving as a Senior Environmental Project Manager in the AECOM Cincinnati office.

During his 19 year career, Mr. Smith has been involved in both large scale and small scale Environmental Program and Projects as well as numerous Remedial Investigations, site investigative supporting phases and treatability studies. Mr. Smith has lead and supported numerous multi discipline and technical project teams related to petroleum, chlorinated compounds as well as emerging contaminants such as PFAS

A list of current and former clients Mr. Smith has worked with include: Auburn University, NASA, Conoco Phillips, BASF, Shell, Chevron, Olin, DOE, DOD, USEPA, Kinder Morgan, El Paso and International Paper, U.S Navy CLEAN and USACE. Mr. Smith has worked at sites across the country from the southeast, mid atlantic, and pacific north west and Alaska. In these areas, he has worked with varying geologic conditions from sedimentary, karst, and volcanic with soils, confined and unconfined groundwater aquifers and glacial till. Mr. Smith also has several years experience working with in depth Health and Safety programs with numerous clients.