

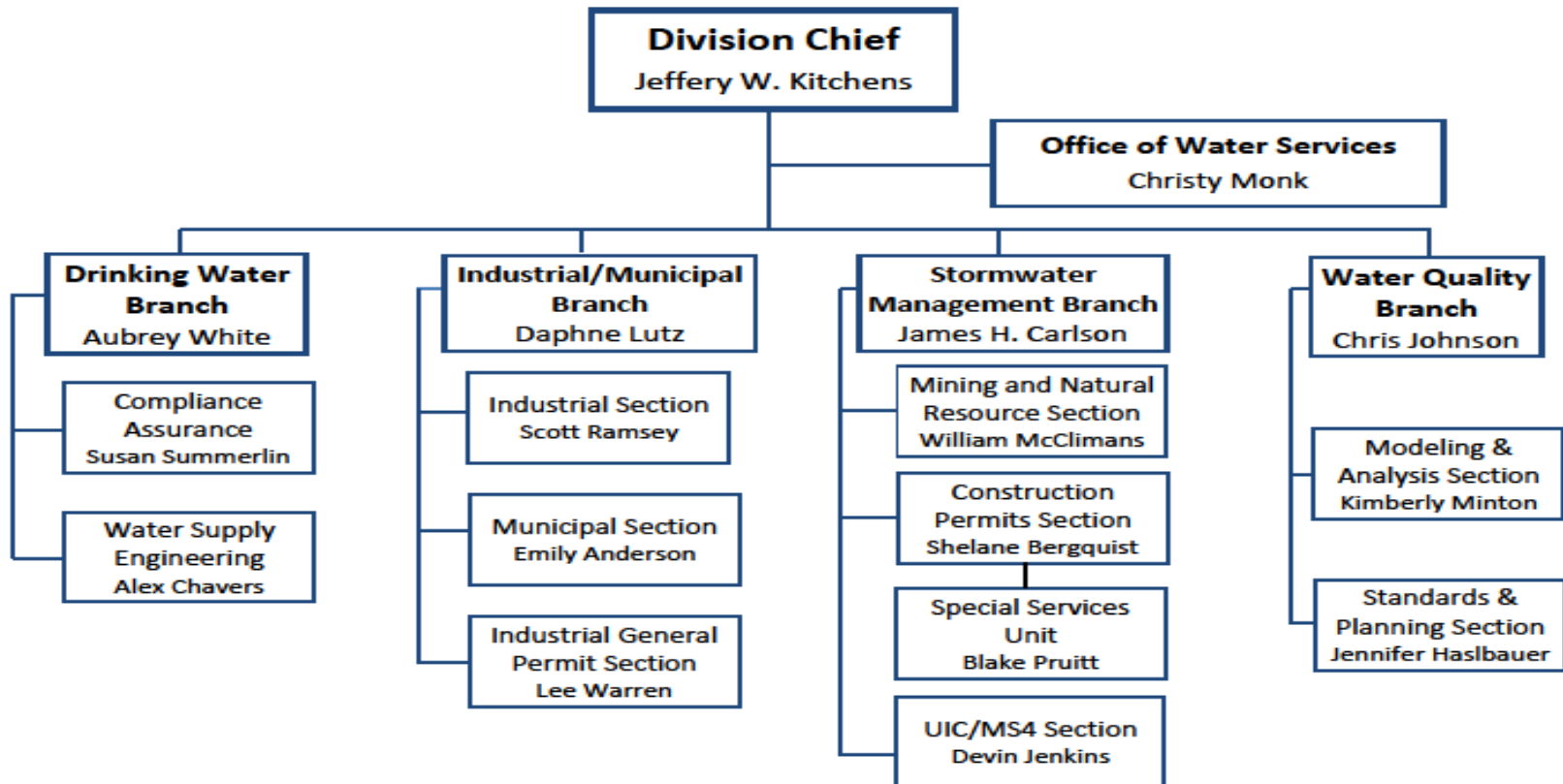
Alabama PFAS Challenges

**AWMA Conference
September 28, 2023**

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Industrial Section
Water Division



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- PFAS
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PFAS Federal Actions

- **Nationwide Monitoring for PFAS in Drinking Water** – Final Rule issued December 2021
- **PFOA and PFOS Drinking Water MCL** – Proposed in March 2023, final rule Fall 2023
- **Publish Toxicity Assessments for GenX and 5 additional PFAS (PFBA, PFHxA, PFHxS, PFNA, PFDA)** – Published early 2022
- **Publish Health Advisories for GenX and PFBS** – Proposed in June 2022
- **Restrict PFAS discharges from industrial sources through ELG program** – Ongoing
- **Leverage NPDES permitting to reduce PFAS discharges to waterways** – EPA Published two Memos
- **Publish improved analytical methods** – EPA Method 1633 has been proposed and on 4th draft
- **Publish recommended ambient water quality criteria for PFAS** – April 2022 for PFOA and PFOS
- **Enhance data availability on PFAS in fish tissue** – Expected Spring 2023
- **Finalize risk assessment for PFOA and PFOS in biosolids** – Expected Winter 2024

ADEM Proposed Aquatic Criteria

- PFOA
 - Acute 49 mg/l
 - Chronic 0.94 mg/l
- PFOS
 - Acute 3.0 mg/l
 - Chronic 0.0084 mg/l – 8.4 ppb



Proposed PFAS MCLs

- EPA announced proposed MCLs on March 14, 2023

Chemical	MCLG (mg/L)	MCL (mg/L)
PFOA	0	0.0000040
PFOS	0	0.0000040
PFBS, PFNA, PFHxS HFPO-DA (GenX)	1.0 Hazard Index	1.0 Hazard Index

The Hazard index for an individual monitoring period is a weighted sum of the individual analyte averages over the monitoring period.

- All MCLs are based on a 4-quarter running annual average. Multiple results within each quarter are averaged for use in determining the running annual average.
- A trigger level is set at 1/3 the MCL and is used in determining eligibility for reduced monitoring.



Proposed PFAS MCLs

- EPA is targeting a finalization of the rule by the end of 2023.
- The rule must be complied with within 3 years of the federal rule being finalized
- ADEM must adopt the rule and submit a package for primacy within 2 years of the rule being finalized; we expect to meet this deadline.



EPA NPDES Permitting Strategy

EPA April 28, 2022 Memo for EPA issued Permits

Applicability

- Direct Dischargers
 - OCPSF, Metal Finishing, Electroplating, Electric and Electric Components, Landfills, Pulp and Paper, Leather Tanning and Finishing, Plastics Molding and Forming, Textile Mills, Paint Formulating and Airports
 - Requirements
 - Best Management Practices (BMP)
 - Effluent Monitoring using draft method 1633
- POTW
 - Requirements
 - Effluent, Influent, and Biosolids Monitoring
 - Require Quarterly Monitoring on all Significant Industrial Users



EPA State NPDES and SID Permitting Strategy

EPA December 5, 2022 Memo for State issued Permits

Applicability

- Direct Dischargers
 - OCPSF, Metal Finishing, Electroplating, Electric and Electric Components, Landfills, Pulp and Paper, Leather Tanning and Finishing, Plastics Molding and Forming, Textile Mills, Paint Formulating and Airports
 - Requirements
 - Best Management Practices (BMP)
 - Effluent Monitoring using draft method 1633
 - Site-specific Technology Based Limits (TBELS) and Water Quality Based Limits
- Indirect Dischargers
 - Requirements
 - Effluent, Influent, and Biosolids Monitoring
 - Require Quarterly Monitoring on all Significant Industrial Users



Alabama PFAS Permitting History

- 2 PFAS Manufacturers
 - Monitoring since 2007
 - Minimization Plans
- 2 Landfills
 - Monitoring since 2010
 - Minimization Plans
- 3 POTWs
 - Monitoring since 2012
- 3 WTPs
 - Monitoring since 2019

- Tennessee River
 - ADEM and 3M Activities
 - Fish Consumption Advisory for PFAS
- Coosa River
 - ADEM and EPA Activities
 - No Fish Consumption Advisory for PFAS
- Alabama River
 - Samples Collected June 2021



Alabama Addressing PFAS in NPDES and Pre-treatment Permits

- PFAS Monitoring in approximately 200 Permits (150 Pretreatment Permits)
 - Semi-Annual Monitoring
 - Using 1633
 - Requiring when Reissuing or Modifying Process Outfall
 - Not required in Stormwater (unless deemed necessary, manufacturing facilities or related to AFFF spills)
- ADEM has issued approximately 30 permits
 - First set of Monitoring will be due January 28, 2024



Differences in Alabama Strategy

- Semi- Annual Monitoring
- Not Including Pulp and Paper Category
- Not including Minimization Requirements until data is evaluated unless determined appropriate

- Based on results, some facilities will be required to develop and implement a PFAS Minimization Plan to reduce the levels of PFAS in the discharge.
 1. Good Housekeeping Practices
 2. Equipment, associated with production and/or wastewater treatment system, decontamination and/or replacement
 3. Product elimination or substitution when a reasonable alternative to using PFAS is available
 4. Immediate clean-up of any AFFF releases
 5. Source Identification
 6. Pilot Studies on treatability of wastewater
 7. Installation and operation of appropriate PFAS treatment technology(ies)



Challenges in Pretreatment Permits

- When to include PFAS Monitoring?
- Sampling Issues for the State
 - Cost
 - Logistics
- What does the Data mean?
 - Source of PFAS?
- PFAS Minimization Plans?
 - When to include?
- Permitting for facilities that are not SIUs?



Permit Example

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency ²	Sample Type ¹	Seasonal
Perfluorooctanoic Acid (51521) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorobutanoic Acid (51522) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorooctanesulfonamide (51525) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluoropentanoic Acid (51623) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorohexanoic Acid (51624) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluoroheptanoic Acid (51625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorononanoic acid (51626) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorodecanoic Acid (51627) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluoroundecanoic Acid (51628) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorododecanoic acid (51629) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorotridecanoic Acid (51630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
Perfluorotetradecanoic Acid (51631) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months
N-ethyl perfluorooctanesulfonamidoethanol (51641) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Quarterly	Grab	All Months

- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.
- 3/ EPA Method 1633, or alternative methods specifically approved by the Department, shall be used for the analyses of Per- and Polyfluorinated Alkyl Substances (PFAS). If a parameter is eliminated from EPA Method 1633, the Permittee should report the no data indicator code *9 on the eDMR for that parameter.
- 4/ See Permit Part IV.C for Additional Per- and Polyfluorinated Alkyl Substances (PFAS) requirements.



PFAS Minimization Permit Language

...prior to the commencement of the operation and permit modification or control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

G. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the discharge limitations specified in Provision I. A. in accordance with the following schedule:

COMPLIANCE SHALL BE ATTAINED ON THE EFFECTIVE DATE OF THIS PERMIT

2. Within 90 days of the modification effective date of this Permit, the Permittee shall submit a plan for the reduction of PFCs in leachate discharged from the Landfill, including a schedule of implementation. The Permittee shall submit semi-annual progress reports by January 28th and July 28th each year detailing the progress of the PFC Reduction Plan and implementation schedule until the plan is completed.

Within 180 days of the modification effective date of this Permit, the Permittee shall submit an engineering report prepared by an Alabama Registered Professional Engineer summarizing the evaluation of potential leachate PFC pre-treatment technologies. The report shall consider the feasibility of PFC treatment, the cost-effectiveness of implementing PFC treatment, and an assessment of whether such PFC treatment technologies could be implementable. The report shall include a schedule of implementation for completing the recommendations outlined in the study.

3. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

- Effluent Guidelines
 - OCPSF – Spring 2024
 - Metal Finishers – December 2024
 - Landfills – No timetable Set
 - Direct and Indirect Dischargers
- Human Health Criteria



Contacts

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