Alabama Department Of Environmental Management

Report
on
State of the Environment in Alabama
to
Alabama Air & Waste
Regulatory Update

August 22, 2019

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The Environment: Then verses Now

- What does the Alabama public think?
- What does the data show?

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Survey of Public Opinion

- Every 5 years 1998 – 2018 [5 times]
- Correct perceptions:
  - 92% rank environment good vs. 76% in 1998
  - 49% rank water cleaner than 25 yrs ago vs. 19% in 1998
  - 43% rank air cleaner than 25 yrs ago vs. 18% in 1998
  - 90% agree standards are protective of human health and the environment

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Survey of Public Opinion

- Incorrect perceptions:
  - 73% do not realize motor vehicles biggest source of air pollution in Alabama and Nation
  - 89% do not realize storm water biggest source of water pollution
  - 44% do not perceive environmental laws are being enforced in Alabama

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AIR DATA

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Air Quality and related standards

- PM2.5
- Ozone
- NO_x
- SO_2
- CO
- Pb
- Haze

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Revisions to Air Quality Standards and Goals

- PM2.5 – 1971; 1987; 1997; 2006; 2012
- Ozone – 1971; 1979; 1997; 2008; 2015
- NO_x – 1971; 2010
- SO_2 – 1971; 2010
- CO – 1971
- Pb – 1978; 2008
- Haze – goal for 2018 set in 2008

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Statewide Attainment of Air Quality and related standards

- PM2.5 – 2013
- Ozone – 2014
- NO_x – 1971
- SO_2 – 1977
- CO – 1971
- Pb – 2015
- Haze – 2013

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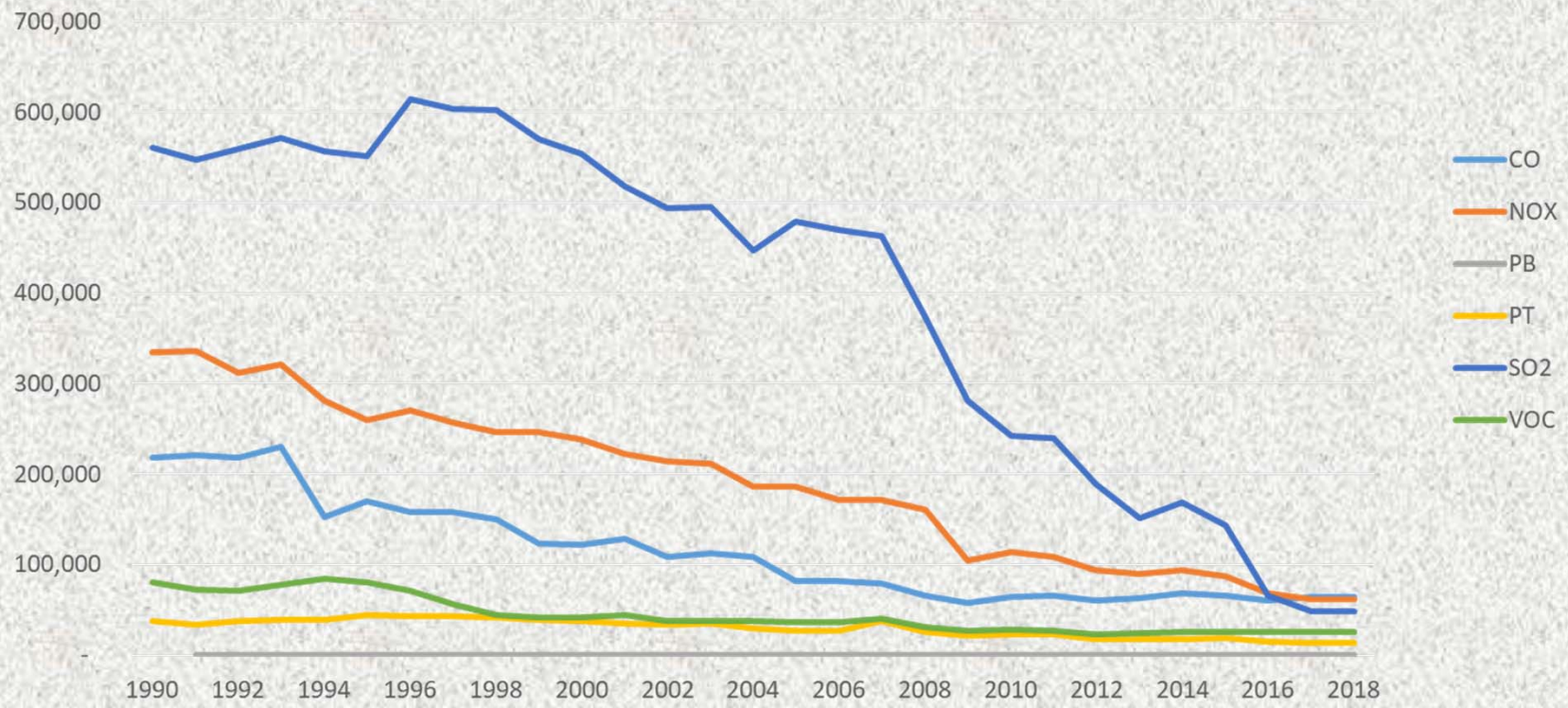
AL Emissions from Major Sources, 1990 - 2018



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WATER DATA

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Number of Drinking Water Contaminants Regulated

	1982	2018
• Organic chemicals	7	55
• Inorganic chemicals	10	19
• Radionuclides	3	7
• Microbes	3	8
Total	23	89

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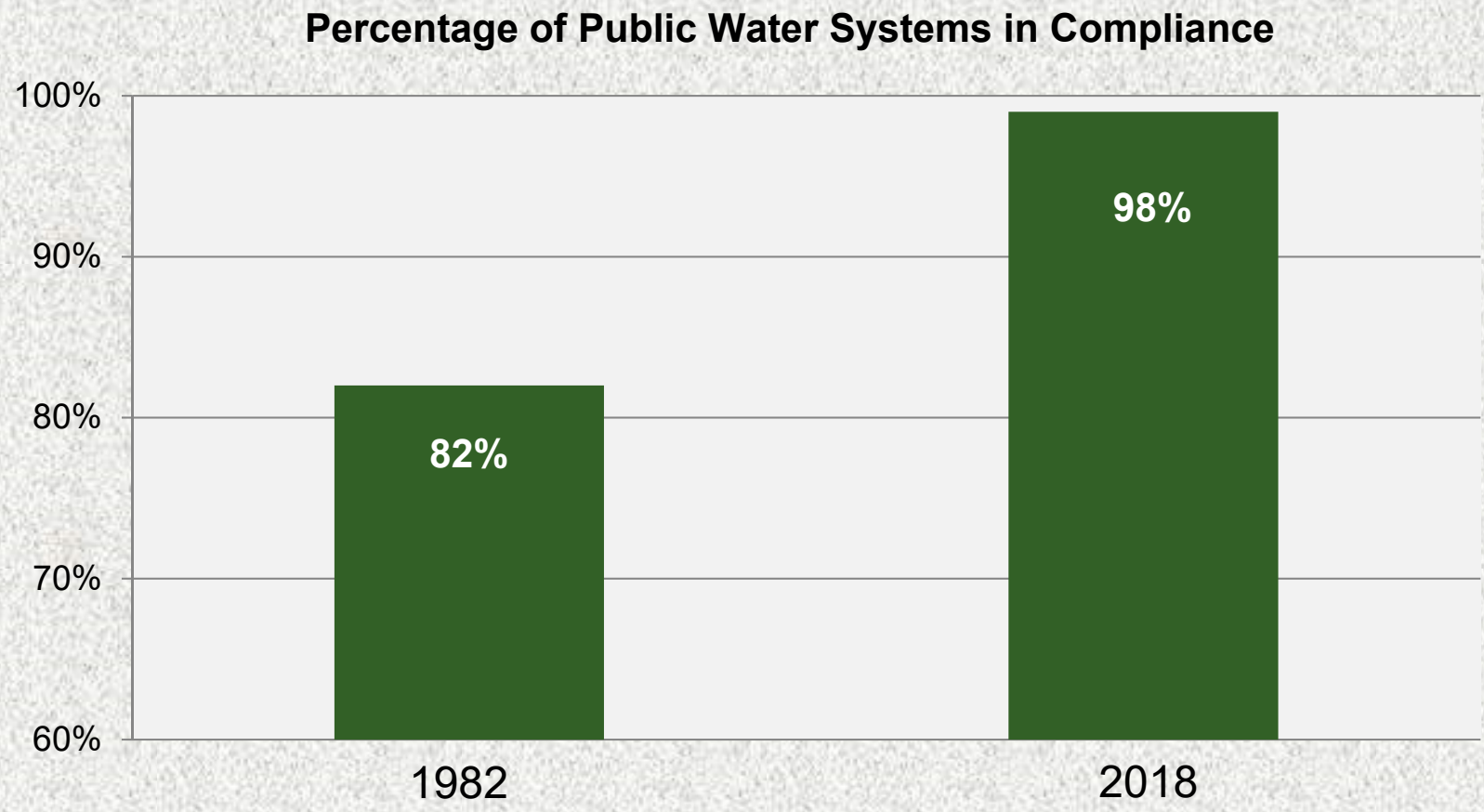

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303(d) Impaired water body / pollutant combinations 1998-2018

	Listed	Ending
River/Stream (miles)	11,913	3,276
Lake/Reservoir (1000s ac)	546	224
Ocean/Estuary (1000s ac)	562	463

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Water Designations & Classifications

	1982	2018
• ***Highest Quality Waters:***		
– Outstanding National Resource Waters		
➢ miles	0	805
➢ acres	0	1,946
– Outstanding Alabama Waters		
➢ miles	0	343
➢ acres	0	3,651
– Treasured Alabama Lakes (acres)	0	40,065
• ***Lowest Use Classifications:***		
– Lower than Fish & Wildlife (miles)	713	138

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LAND DATA

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Landfills

- Improved landfills 1989 - 2018:
  - 141 unlined MSW landfills closed
  - 32 state-of-the-art lined MSW landfill permits today

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Unauthorized solid waste dumps (UAD)

- 1,880 UADs remediated 2009 – 2018
  - 1,341 UADs remediated by responsible parties
  - 539 UADs innocent landowners held harmless

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Solid waste & Scrap tire recycling

- Solid waste reduction since 1989
  - rate increased from 5% to 25%
  - rate increased from .2 million TPY to 2.44 million TPY
- Scrap tire cleanup since 2006
  - 341 illegal scrap tire dumps cleaned up
  - 9.9 million passenger tires cleaned up

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Underground Storage Tanks (UST)

Since 1989:

- 12,129 UST leak sites identified
- 11,136 UST sites cleaned up
- 993 UST sites currently being cleaned up

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Brownfields (BF)

- 611 BF sites identified 2001 – 2019
- 400 BF sites returned to productive use
  - 5,403 acres returned to productive use
- 81 BF sites currently actively enrolled
  - 7,328 acres currently actively enrolled

Land Division Overview

Stephen A. Cobb, Chief
Land Division

2019 Alabama Air & Waste Regulatory Update

August 22, 2019
Montgomery, Alabama

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Overview

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- Personnel Changes
- Land Programs
- Hazardous Waste Highlights
  - Redevelopment Update
- Underground Storage Tank Highlights
- Solid Waste Highlights
  - Recycling
  - Unauthorized Dumps/Scrap Tires
  - Beneficial Use of By-Product Materials for Land Application

Land Division Organizational Chart

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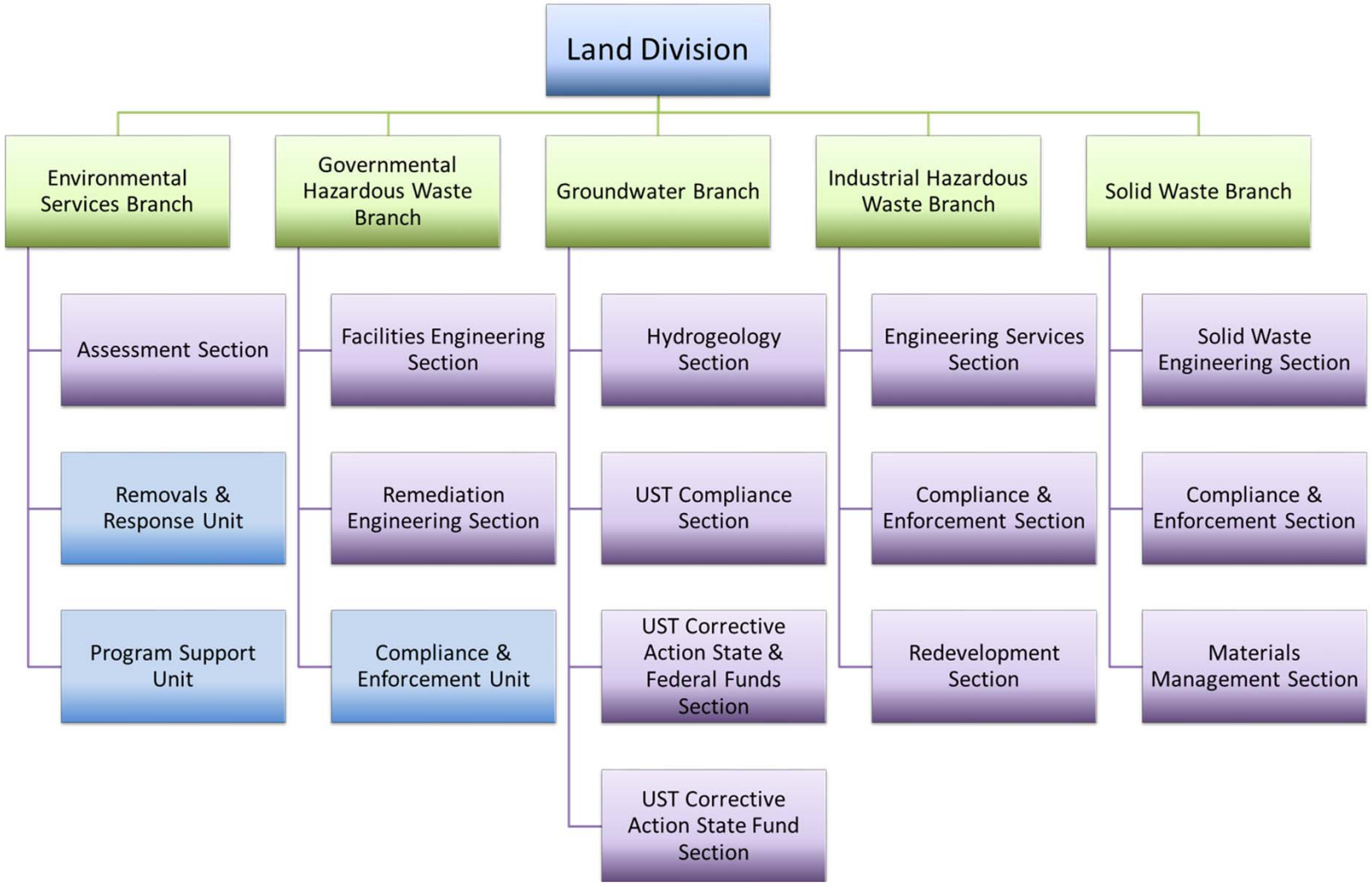

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Land Division Programs

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- Hazardous Waste
  - RCRA/CERCLA/DSMOA
  - Brownfields/Voluntary Clean-up Program
- Solid Waste
  - Solid Waste Landfills
  - Unauthorized Disposal Site Remediation
  - Recycling Facilities and Grants
  - Scrap Tires Management
  - Coal Combustion Residuals
- Groundwater
  - Underground Storage Tank Compliance and Remediation
  - Groundwater Protection

Hazardous Waste Highlights

- Division 14 Rule Revisions
  - Annual update to capture EPA rules regarding
    - Pharmaceutical Rule
    - Airbag Rule
- National eManifest system is fully online
- ADEM preparing for upcoming BR 2019 Data Collection and Reporting
- National Enforcement Initiatives
  - Continued focus on RCRA Air Emissions rules (40 CFR 264/265 Subparts AA, BB, and CC)

Redevelopment Update Brownfields (BF)

- 611 BF sites identified from 2001-2019
- 400 BF sites returned to productive use
  - 5,403 acres returned to productive use
- 81 BF sites currently actively enrolled
  - 7,328 acres currently actively enrolled

Underground Storage Tanks Highlights

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Since 1989:

- 12,129 UST leak sites identified
- 11,136 UST sites cleaned up
- 993 UST sites currently being cleaned up

SW Highlights Recycling

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Statewide solid waste reduction goal of 25%

- Goal set in 1991; Retained in 2008 update

Online reporting tool – Re-TRAC

- 25% waste reduction rate; Goal met for 1st time

Processing and Recycling Facility regulations

- Gather data from legitimate recycling
- Identify & address “sham” recycling
- New Inspection Form now in use

SW Highlights Recycling

Alabama Recycling Fund

- Purpose is to promote and enhance recycling efforts in Alabama
  - Over $15 million awarded since inception
  - FY2017, ~ $1.6 million awarded to 13 projects
  - FY2018 , ~ $1.7 million awarded to 13 projects

Unauthorized Dumps/Scrap Tires

Unauthorized Dump & Scrap Tire Remediation

- Investigate sites, obtain ranking criteria data, and responsible owner information
- Primary tool for remediation through enforcement actions
- Innocent landowner (ILO) and Interagency Cooperative Agreements (ICA) remediation projects funded by the SWF or STF

Unauthorized Dumps/Scrap Tires

Unauthorized Dump Remediation Projects

- Since program inception, ADEM has reimbursed **~$15 million** for Solid Waste Fund clean-up projects
- As of 2018, ~539 Innocent landowner UAD sites remediated using SW Fund
- Estimated that more than twice as many UAD sites have been remediated by the responsible parties under ADEM enforcement actions

Unauthorized Dumps/Scrap Tires

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Unauthorized Dumps/Scrap Tires

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Scrap Tire Remediation Projects

Large Sites (25,000+ PTE)

- 8 sites remediated
- 75,000+ tons of scrap tires (~8 million PTE) removed and properly disposed
- 30,000+ tons of scrap tire material (3 million PTE) beneficially used
- **~$7.9 million** spent from the STF

Small Sites (25,000- PTE)

- 353 sites remediated
- ~1.9 million PTE removed
- ~3,300 tons of solid waste removed and properly disposed
- **~$3.3 million** spent from the STF

Unauthorized Dumps/Scrap Tires

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Beneficial Use of By-Product Materials for Land Application

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- What does that mean?
  - Land Application - the method by which ***waste*** is spread upon or sometimes mixed into soils.
  - "By-Product Material" – a material that is generated as a result of water or wastewater treatment that would otherwise be discarded at a solid waste disposal facility.
  - "Beneficial Use" – use of a by-product material as a soil amendment or fertilizer material, where it replaces a natural material by it's utilization.

Beneficial Use of By-Product Materials for Land Application

- Isn't that already regulated?
  - Current regulations:
    - State AFO/CAFO Program (335-6)
    - State NPDES Program (335-6)
    - Federal Biosolids Program (Part 503)

Beneficial Use of By-Product Materials for Land Application

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- So what exactly are we talking about?
  - Closing the gap in regulatory coverage:
    - Wastewater treatment plant sludges (biosolids),
    - Water treatment plant sludges (alum sludge),
    - Food processing residuals (chicken, beef),
    - Others

Beneficial Use of By-Product Materials for Land Application

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- What is the goal of the proposed regulations?

1. Ensure that the public has clear understanding that ADEM has regulatory authority….
2. Encourage land application and not land disposal…
3. Determine the beneficial use “universe”…
4. Ensure proper management during transit…
5. Require Operations and Nutrient Management Plans…

Beneficial Use of By-Product Materials for Land Application

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- What is the timeframe for implementation?
  - Rule making schedule
    - Public Notice - July 21st
    - Public Hearing - September 5th
    - Consideration for Adoption by EMC – October 18th
    - Rule effective ??

Contact Information

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ADEM Air Program Overview

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Topics

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- Organization
  - Changes
- Regulatory Changes
  - Affordable Clean Energy Rule
  - “Once In Always In”
  - Start Up Shut Down and Malfunction
- Rulemaking Problems

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Air Division Organization

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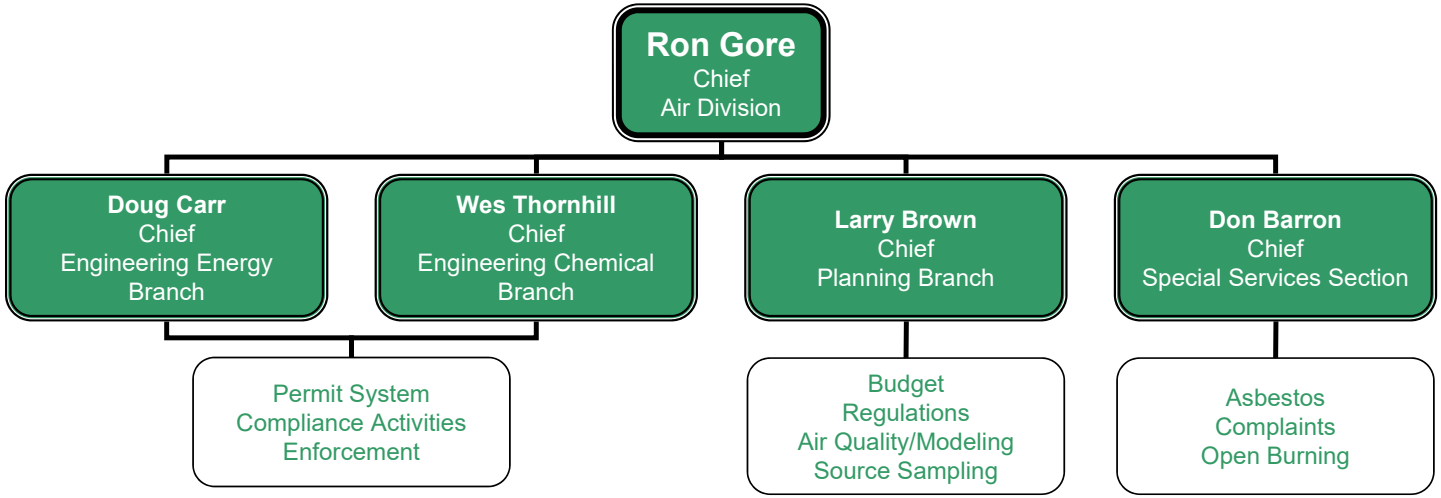

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Air Division Organization

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- Air Division staffing is stable
  - About 89 employees.
  - No change since the mid 1990s
- Chief of the Industrial Minerals Section
  - Jimbo Carlson Promoted
    - Storm Water Branch
  - Backfill by Early 4th Quarter

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Air Division Contact Info

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Affordable Clean Energy Rule

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- Clean Power Plan
  - The Repeal of this Standard was published on July 8, 2019
  - Repeal Effective September 6, 2019
  - The Repeal was due to a “reinterpretation” of the Clean Air Act
    - The CPP was an “Over Reach” that wasn’t supported by the CAA
  - 27 States as well as others had challenged the CPP in Court

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Affordable Clean Energy Rule

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- What is the Affordable Clean Energy Rule?
  - AKA the ACE Rule
  - ACE is the replacement for CPP
    - Final June 19, 2019
  - A Section 111(d) Rule for Existing Sources
    - These are Emission Guidelines for States
    - Go By Rules
  - Only Affects Existing Coal Fired Utilities

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Affordable Clean Energy Rule

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- What does ACE do?
  - Regulates Greenhouse Gases (GHG's)
    - Existing Coal Fired Power Plants
  - Establishes "Best System of Emission Reduction"
  - BSER was Determined to be "Heat Rate Improvement"
    - Efficiency Upgrades
  - Menu of Choices of Upgrades
  - GHG Limit is set on Each Emissions Unit
- Expect Litigation

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Once In Always In

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- Once in Always in Policy
  - 1995 EPA Memo
    - “facilities that are major sources for HAPs on the "first compliance date" are required to comply ***permanently*** with the MACT standard to ensure that maximum achievable reductions in toxic emissions are achieved and maintained”
  - This Means “Once In Always In”
    - Once a Source is Subject to a Major Source MACT it is Always in
  - ADEM Disagreed with this Policy
    - No Protection from EPA

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Once In Always In

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- EPA Reversal
  - January 2018 Memo withdrew the Previous Version
  - “Plain Reading of the CAA” allows Sources to Reduce Emissions to Become an Area Source
- EPA Codifying Interpretation
  - Proposed Regulatory Revisions in June of 2019
  - Changes General Provisions of Part 63
  - Allows Major Sources to Reduce\Limit Emissions to be an Area Source

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Once In Always In

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- What does this Mean?
  - If You're a Major Source of HAPS and Subject to a Major Source MACT You May Reduce\Limit your Potential to Emit to Area Source Levels
  - Then You will be Subject to any Area Source Standard (if any) that is Applicable
  - The Source would have to take Enforceable Limits
    - Limit HAPs to below 10 TPY of and Single HAP or 25 TPY of any combination of HAPs
  - You Can Revert Back to a Major Source
    - Must Comply Immediately
- Expect Litigation

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Startup Shutdown and Malfunction Rule

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- On May 22, 2015, EPA issued a SIP Call concerning SSM
  - As a result of a settlement with Sierra Club
  - Affected 36 States including Alabama
  - Would require states to remove SSM provisions and affirmative defense provisions
  - Or replace them with “Alternative Emissions Limits” or Work Practices
    - Must be protective of the NAAQS
- The SIP submission deadline was November 22, 2016
  - ADEM delayed submission of the SIP.

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ADEM's SSM Rule

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- ADEM's regulations provide provisions for Start-Up, Shutdown and Load Change.
- Exemptions must be written into a permit.
- ADEM's regulations also provide an emergency provision.

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SSM Rule Status

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- Recent Developments
  - Texas Petitioned for Reconsideration and a Stay in 2017
    - Affirmative Defense Provisions
  - EPA R6 Signed a Proposal to Withdraw the SSM SIP Call for Texas
    - April 2019
  - R6 Considering New Policy
    - “affirmative defense provisions are generally permissible in SIPs when they are adequately protective and do not interfere with any applicable requirement of the CAA”
  - Expect Litigation

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SSM Rule Status

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- Recent Developments
  - R4 Signed a Proposal to Withdraw the SSM SIP Call for North Carolina
    - May 2019
  - R4 Considering New Policy
    - “that SSM exemption provisions may not be substantially inadequate to meet CAA requirements so long as the SIP contains other provisions that remain in effect and ensure attainment and maintenance of the NAAQS”
  - ADEM has commented in Support of R4’s Approach
  - Expect Litigation
- ADEM’s Status
  - SSM Similar to North Carolina

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Rulemaking Problems

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- A Cautionary Tale of Regulatory Uncertainty
- Regulatory Certainty - Industry
  - We Need Certainty in Order to Comply
  - No Moving Targets
- Regulatory Certainty – Regulator
  - What to Permit\Enforce
  - ADEM Primacy

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Rulemaking Problems

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- EPA Adopts New Rule
  - Wants to Delegate Authority to Enforce to the States
  - Rule is in Effect Whether or not the State Adopts the Rule
    - EPA Implementation vs State Implementation

Rulemaking Problems

- Emission Sources Impacted by the Rule
  - Want to deal with the State
    - Not EPA
  - Ask State to Adopt Rule ASAP

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Rulemaking Problems

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- ADEM
  - Wants Primacy for this Rule and Almost All Other EPA Rules
    - Sometimes don't take Delegation
  - Adopts Rule Quickly

Rulemaking Problems

- Then, EPA Either
  - Partially or Totally Loses Lawsuits Over the Rules

    OR
  - Disavows Rule
    - Due to Logic Errors
    - Change in Administration

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Rulemaking Problems

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- Result
  - ADEM has a Rule on the Books that None of the 3 Parties wants Enforced
  - ADEM must ask the AEMC to Revoke the Rules
    - Rule has Only Been on the Books a Short Time
  - ADEM must ask the AEMC to Adopt Rules in the Future
    - After “Issues” are Worked Out

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Rulemaking Problems

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- Long Term Results
  - ADEM is Reluctant to Adopt New EPA Rules Quickly

Questions

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LAND DIVISION RULEMAKING UPDATE

Heather Jones, Chief
Compliance and Enforcement Section
Solid Waste Branch

Updated Land Division Rules

- Division 5 – Uniform Environmental Covenants Program

- Division 14 – Hazardous Waste Program
  - ❖Airbag Waste
  - ❖Pharmaceutical Rule
- Division 15 – Brownfield Redevelopment & Voluntary Cleanup Program (VCP)
- Division 13 – Solid Waste Program

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Division 5

Uniform Environmental Covenants Program

Applicability

- Guidelines for current and future uses of the property
- Applies to sites not returned to unrestricted use
  - ❖Contamination left in place
  - ❖Sites with Land Use Controls
- These regulations are promulgated to establish minimum requirements governing environmental covenants

History

- Uniform Environmental Covenant Act (UECA) passed in 2007
  - ❖Became effective January 1, 2008
- ADEM Admin. Code 335-5 Regulations became effective May 26, 2009
- In 2012, UECA amended by Alabama Legislature

Programs Subject to Division 5 Regulations

- Scrap tire remediation sites
- Soil and groundwater remediation sites
- Solid waste disposal sites
- Hazardous waste disposal sites
- Voluntary Cleanup Program sites
- Dry Cleaner remediation sites
- Sites subject to the AL Hazardous Substance Cleanup Fund
- Sites being remediated by PRPs or EPA
- EPA subject to CERCLA
- Other sites/properties

Proposed Revisions to Division 5 Regulations

- Revises the requirements for submitting multiple original paper copies.
  - ❖Submit one signed environmental covenant for execution instead of two
  - ❖Clarifies the EC execution process
- Amends the covenant registry process to be consistent with the UECA
  - ❖Allows for the filing of “recording instruments” in lieu of covenant
  - ❖Instrument must be ADEM approved prior to filing
  - ❖EC must be executed before instrument can be filed

Rulemaking Schedule
Division 5 Regulations

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- Public Notice Period Ended: July 11, 2019
- Consideration by EMC: August 16, 2019
- Effective Date: October 4, 2019

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Division 14

Pharmaceutical Rule

Pharmaceutical Rule

History

- 2008- EPA proposed to add pharmaceuticals to universal waste
- 2015- New proposal responded to concerns raised with UW proposal
- February 22, 2019- Final Rule published

Goals

- Reduction of pollution to surface and groundwater
- Reduce burden on healthcare facilities regulated as LQGs due to small amounts of nicotine waste
- Reduce overlap of regulation among agencies (DEA, FDA)

What is Changing?

- The new rules are waste specific and sector specific
- Options for “healthcare facilities” and “reverse distributors”
- Nicotine replacement therapies (P075) no longer considered waste
- Sewer Prohibition

Healthcare Facilities Operating under Subpart P

- Not subject to LQG requirements if generate more than 1 kg of acute hazardous waste pharmaceuticals in a month
- Not subject to satellite accumulation requirements
- Will not need to specify hazardous waste codes on manifests
- Can accumulate hazardous pharmaceutical waste on site for 365 days without a permit
- Will have basic training requirements
- Opt in using Form 8700-12
- VSQGs are only subject to the Sewer Provision, but may
  - ❖ opt in and comply with all provisions
  - ❖ use optional provisions of Subpart P

Nicotine Amendment

- Less stringent regulation for nicotine management
- Prescription nicotine (patches, gums, lozenges, etc.) is not a hazardous waste (P075)
- Other forms of nicotine (liquids, research materials, sprays, pesticides, etc.) will still be P075

Sewer Prohibition

- Effective federally in ALL states August 21, 2019
- ALL healthcare facilities (including VSQGs) and reverse distributors prohibited from discharging hazardous waste pharmaceuticals to a sewer system that passes through to a publicly-owned treatment works
  - ❖Recommended for households but not required

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Division 14

Airbag Rule

RCRA Interface with Airbags

Explosive propellant in gas-generating airbag systems causes them to exhibit the hazardous waste characteristics of ignitability and reactivity.

Takata Recalls

- Inflator rupture caused 15 deaths and ~250 injuries as of August 2018
- Recalls affect 65-70 million airbag inflators
- Recalled airbag inflators were collected and stored under a February 2015 DOT Preservation Order
- June 2017 EPA memo explained that Takata airbags not subject to RCRA
- Once the Order no longer applies, the Takata inflators must be managed as hazardous waste

Goals

- Swift removal of recalled Takata airbag inflators from vehicles
- Safe management of airbag waste (inflators and modules) during accumulation and transport
- Proper and timely disposal of waste without long-term storage
- Ensure recalled inflators are not diverted back into vehicles

Proposed Rule

Airbag waste at the airbag waste handler or during transport to an airbag waste collection facility or designated facility is not subject to regulation under 335-14-3 through 335-14-9, and is not subject to the notification requirements of section 3010 of RCRA provided that:

Proposed Rule

- Max 250 discarded airbags/inflators stored at the airbag handler
- Storage time limit of 180 days
- Packaged and shipped in a container designed to address risk posed by inflator
- Container labeled “Airbag Waste-Do Not Reuse”
- Comply with DOT regulations during shipping
- Maintain records for 3 years

Management

- RCRA exemptions and exclusions may be applied to airbag waste, depending on how the waste is managed

- HOWEVER, used Takata airbags removed from vehicles MUST be managed as hazardous waste when discarded

Rulemaking Schedule
Division 14 Regulations

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- Proposed Cycle Begins: October 2019
- Proposed Public Hearing: December 2019
- Proposed Consideration by EMC: February 2020
- Proposed Effective Date: April/May 2020

Contact

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Division 15

Brownfield Redevelopment and Voluntary Cleanup Program

What are Brownfields?

- Sites where previous industry or other activity has contaminated the property, making redevelopment more challenging than with unused real estate

  - ❖Examples:
    - – former site of a leather tannery, textile mill or an illegal dump site
  - ❖Sites are not attractive for redevelopment due to the cost of cleaning up contaminants

Applicability

- These regulations are promulgated to provide a mechanism for the implementation of a cleanup program that encourages applicants to voluntarily assess, remediate, and reuse rural and urban areas of actual or perceived contamination.

Proposed Revisions to Division 15 Regulations

- Proposing to Add/Revise:
  - ❖ Definition for “Operation and Maintenance”
  - ❖Clarify requirements for submitting modifications to voluntary cleanup applications
  - ❖Clarify requirements related to long-term operation/maintenance of voluntary cleanups
  - ❖Clarify requirements related to financial assurance of voluntary cleanups
  - ❖Clarify uses of Brownfield Revolving Loan funds

Division 15 Proposed Rulemaking Schedule

- Proposed Cycle Begins: October 2019
- Proposed Public Hearing: December 2019
- Proposed Consideration by EMC: February 2020
- Proposed Effective Date: April/May 2020

Contact

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Modeling Issues

Leigh Barb Bacon
Meteorological Section
State of Alabama-DEM
August 2019

Overview

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Modeling Issues

- Short Term NAAQS Issues
- Secondary Formation/MERPS
- Appendix W Revisions
  - Actual Emissions vs Allowable Emissions
- Coordination with Federal Agencies

Short Term NAAQS Issues

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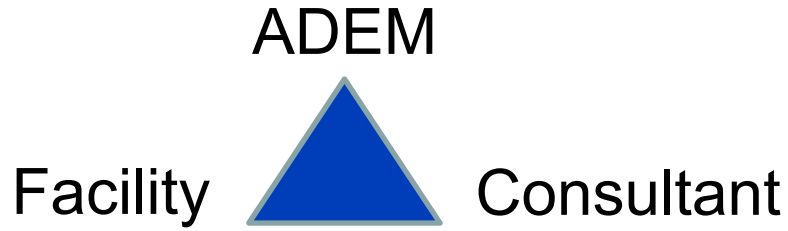
- Modeling is a fast, easy way to estimate the air quality impacts of a project.
- In both PSD applications and in actions to attain the NAAQS, modeling is a major part of the review.
- With the short term NAAQS, **many** PSD projects are predicting violations.
  - Stack parameters, emission rates matter
  - Applicant must show they do not cause or contribute to all predicted violations.
- Coordination is key



Secondary Formation/MERPS

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- EPA has issued final guidance on evaluating the secondary formation of $PM_{2.5}$ and Ozone.
- These documents lay out a detailed process for addressing impacts from the creation of secondary $PM_{2.5}/O_3$.
  - The PSD program was never intended to predict these types of impacts; however, for most applicants, this analysis is largely a paperwork exercise.
- ADEM has examples of MERPs analyses and the guidance gives additional examples. MERPs need to be discussed early in the permitting process, and laid out in detail in the modeling protocol.

Actual Emissions vs Allowable Emissions

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- When Appendix W was finalized, one revision was the use of actual emissions in lieu of allowable emissions for existing sources in the area.
  - This has proved to be easier said than done.
  - Table 8-2 allows the model user to account for actual emissions in developing the emissions inputs for nearby sources.
    - EPA has recognized that some agencies have swung the pendulum too far in determining actual emission rates, and is trying to bring the development of actual emissions closer to the potential.

Coordination

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- Coordination is key to a smooth review
  - Protocols
  - Meetings/Conference calls/emails
  - Documentation is essential
- Federal Partner Coordination
  - EPA Region IV
  - OAQPS
  - Federal Land Managers (FLMs)-additional time is given to the FLM's for review when the source is required to undergo an Air Quality Related Values (AQRV) analysis.

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Questions

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CCR Regulatory Update

Brandy Tiblier

RSA Activity Center

Montgomery, Alabama

August 22, 2019

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Overview

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- **What is CCR?**
  - Coal combustion residual or coal ash
  - CCR includes fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) materials.
  - 11 CCR surface impoundments
  - 3 CCR landfills

CCR Landfill

CCR Surface Impoundment

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Federal CCR Rules

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- Federal Coal Combustion Residual (CCR) Rules established a minimum criteria for the safe disposal of CCR generated from electric utilities or independent power producers.
- Federal CCR Rules substantially mirror the RCRA Subtitle D rules.
- June 21, 2010: Draft RCRA CCR Rule Published in Federal Register
- December 19, 2014: Final CCR Rule signed by EPA
- April 17, 2015: Published in Federal Register

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WIIN Act

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Water Infrastructure Improvements for the Nation Act

- States may, but are not required to, develop and submit a CCR permit program to EPA for approval.
- The program does not have to be identical to the current CCR rule but must be “as protective as” the CCR rule.
- EPA may approve a program “in whole or in part”.
- Once approved, the State permit program operates “in lieu of” the federal CCR rule.
- EPA must review State permit programs at least once every 12 years and in certain specific situations.

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State CCR Rules

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- States are not required to adopt or implement the federal regulations or to develop a permit program; however, they are strongly encouraged to adopt the federal minimum criteria into their regulations, to revise their Solid Waste Management Plan (SWMP), and to submit the plan to the EPA for approval.

- Stakeholder input included the EPA, the environmental groups and the utility companies.

- June 8, 2018: State regulations were finalized

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Overview of Regulatory Requirements

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- Applicability
- Location Restrictions
- Design Standards
- Operating Standards
- Groundwater Monitoring and Corrective Action
- Closure and Post-Closure
- Recordkeeping, Notifications and Internet Posting

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Enforcement Actions

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- Due to exceedances over the groundwater protection standard, seven Administrative Orders have been issued against the utility companies.

- Provisions in the Administrative Order:
  - Civil Penalty
  - Facility Investigative Report
  - Comprehensive Groundwater Investigative Report
  - Assessment of Corrective Measures
  - Semiannual Progress Reports

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Proposed Amendments to Federal CCR Rules

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On August 14, 2019, EPA published the following proposed amendments to the Federal CCR Rule in the Federal Register:

- A modification to the criteria used to determine if coal ash is being beneficially used;
- The requirements for managing piles of coal ash;
- Revising the annual groundwater monitoring and corrective action report requirements to make the data easier to understand and evaluate;
- Establishing an alternative groundwater protection standard for boron; and
- Revising the CCR website requirements to ensure that relevant facility information required by the regulations is immediately available to the public.

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Looking Ahead

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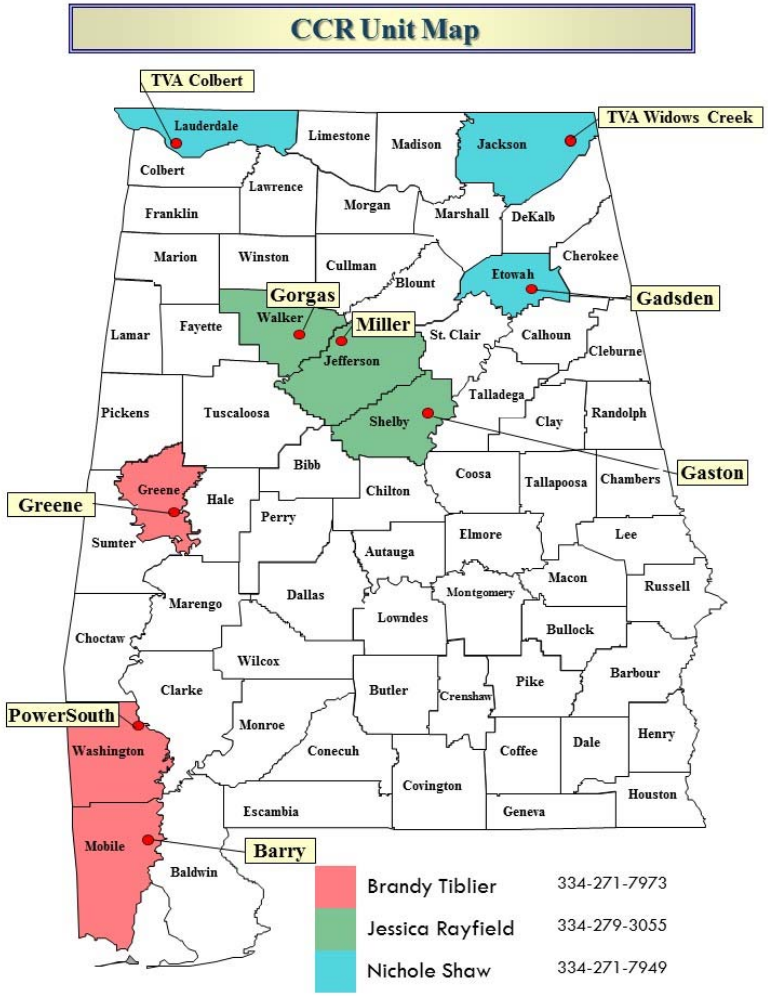
- Permit Applications
- Closure Plans
- Amendments to the regulations



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Questions??

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Everything you wanted to know about permitting but were afraid to ask

Wes Thornhill

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Air Permitting

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Part 1 – General Permitting Overview

Part 2 – PSD issues

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Air Permitting

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ADEM has 2 Air Permitting tracks.

1. Construction Permitting
2. Operating Permits:
   - SMOP
   - Title V

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Air Permitting

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4 Types of Air Permitting Actions which Authorize Construction

1. Letter of exemption
2. Minor modification permit WITHOUT a public comment period
3. Minor source permit WITH a public comment period
4. PSD and Non-Attainment Permitting

Air Permitting

Letter of exemption

Some new sources have emissions that are so small that NO Air Permit is issued. Except for the requirement to obtain a Permit, all appropriate ADEM Air Regulations apply.

Note: Air Permit applications may be requested.

Minor modification permit WITHOUT a public comment period

Authorizes a modification or an addition to an existing facility to begin 10 days after ADEM's receipt of a complete application. Operation of the project may not begin until the Air Permit is issued.

Minor source permit WITH a public comment period

- If a facility is to be a Greenfield site, a 15 day public comment period (PCP) is required.
- PCP required for certain source types
- Construction may NOT begin until the comment period is over and the Air Permit is issued.
- 30 – 45 day process (absent significant public comment)

Prevention of Significant Deterioration (PSD) Attainment Areas

- **Applicability**

- 100 Tons/year Criteria Pollutants for most large industries (See R. 334-3-14-.04(2)(a) for complete list)

- 250 Tons/year Criteria Pollutants for other sources not listed in previous cite

- **Significance levels**

- Potential emission levels that trigger PSD requirements at Major Sources (See 335-3-14-.04(2)(w) for complete list)

MORE ON THIS LATER – STAY TUNED

Air Permitting

New Source Review (NSR) Non-Attainment Permitting

- **Applicability**
  - Alabama currently has no Non-Attainment areas.
- **Lowest Achievable Emission Rate (LAER)**
  - Control system that is technically feasible without consideration of cost.
- **Offsets**
  - Any major new emissions must be balanced by reductions in the same pollutant.

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Air Permitting

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Potential Permitting Hang-ups

- Incomplete applications
- Public Hearings
  - Non Air Related Issues
- BACT Disagreements**
  - Level of Control
  - EPA Oversight

Modeling Concerns**

- Possible Legislation

**MORE ON THESE LATER

Air Permitting

Public Comment

- Address facility's ability to comply with Air Rules and Regulations.
- Does not consider:
  - >Property Value
  - >Traffic
  - >Aesthetics
  - >Zoning
  - >Residential Proximity
  - >Other non emission related concerns

Air Permitting

2 Types of Operating Permits

- Synthetic Minor Operating Permits (SMOP)

- Major Source Operating Permits (Title V)

SMOPs

- Potential to emit is restricted by permit to less than a major source threshold
  - < 100 TPY Criteria Pollutants
  - < 10 TPY Single HAP / 25 TPY total HAPs
- Recordkeeping requirements to support synthetic minor status.
- Possible testing to demonstrate emissions rates
- Annual actual emissions report

Major Source Operating Permits (Title V)

- 300 – 400 largest sources in the State
- Applicability
  - 100 TPY of any Criteria Pollutant
  - 10 TPY single HAP / 25 TPY total HAPs

Air Permitting

Major Source Operating Permits (Title V) (cont.)

- Consolidation of Existing Permits
  - 1 Year to submit
  - Periodic Monitoring
  - Emissions Fees
- Notice
  - 30-day Public Notice
  - 45-day EPA Review

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Air Permitting

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PSD Issues

Or how I learned to stop worrying and love the BACT.

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Air Permitting

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What is PSD?

Prevention of Significant Deterioration

Air Permitting

When does PSD apply?

New Major Sources

>100/250 tpy of Criteria Pollutants

Major Modifications at existing major sources

New Major Source Permitting

Issues of note:

Pre-construction permit(s)

Modeling – Federal Land Manager (within 100 km), tight standards, very technical

BACT – Technologically and financially feasible Negotiation, case-by-case

RACT/BACT/LAER Clearinghouse

EPA/Public - 30 day public notice and EPA review

Air Permitting

Major mods at existing sources

See previous slide

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Air Permitting

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Avoiding Major Mods at Existing Sources

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What is a “Major Modification”?

"Major Modification" shall mean any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any regulated NSR pollutant.

Air Permitting

Significant Net Emissions Increase (Tons Per Year)

- Carbon monoxide 100
- Nitrogen oxides 40
- Sulfur dioxide 40
- Particulate matter 25
- PM10 15
- PM2.5..... 10 (of direct PM2.5)
- 40 (of SO2 or NOx)
- Ozone ..... 40 (of VOC or NOX)
- Lead 0.6
- Fluorides (excluding HF) 3
- Sulfuric acid mist 7
- Hydrogen sulfide (H2S) 10
- Total reduced sulfur (including H2S) 10

Air Permitting

How to determine emissions increase?

Baseline to future projected actuals for existing sources.

Baseline to potentials for new sources.

Air Permitting

What are projected actual emissions?

Emissions that result from the project, that don't include emissions that the unit could have previously accommodated, or emissions that result from demand growth.

What is could have accommodated?

The rate at which the unit has demonstrated that it can operate prior to the modification.

Commonly accepted as 30 days but 30 days isn't in the rules.

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Air Permitting

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Netting is where emission offsets are used.

There are two kinds of netting.

- Project Netting
- Netting Analysis

Project netting

Emissions credits and debits that result from a single project can be summed to see if the significance threshold is exceeded.

Netting Analysis

Allows a facility to take credit for reducing emissions at unrelated units. A netting analysis must include ALL contemporaneous increases and decreases in emissions.

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Air Permitting

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Questions??

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Compliance and Enforcement Update

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Introduction

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- Compliance Determinations
- ADEM's Enforcement Tools
- Statistics
- Compliance Issues
- Enforcement Reporting
- EPA's Role
- Inspections 101

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Compliance Determinations

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- On-site Inspections
- Complaints
- Emission/Performance Testing
- Self-Reporting
  - Annual/Semi-annual plant-wide compliance reports
  - Monthly/Quarterly stack specific and pollutant specific reports
  - Short-term deviation reports

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Enforcement Tools

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- On-Site discussions and follow-up calls
- Warning
- Notice of Violations (NOVs)
- Consent Orders
- Unilateral Orders
- Litigation
- Referral to EPA

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Enforcement Tools (cont.)

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- Penalty Development (6 Factors)
  - Seriousness of Violations
  - Standard of Care
  - Economic Benefit
  - Efforts to Minimize or Mitigate Effects of Violations
  - History of Previous Violations
  - Ability to Pay

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Enforcement Statistics

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- Five Year Average
  - 135 Warning Letters Issued per year
  - 45 Notice of Violations (NOV) Issued per year
  - 35 Orders Issued per year
  - $516,000 in Fines Assessed per year
    - Largest Penalty: $200,000
    - Average Penalty: $17,000

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Violations Leading to Enforcement

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- Failure to operate control device
- Failure to meet emission limit
- Failure to submit air permit applications
- Failure to monitor
- Failure to maintain records
- Failure to report violations within required timeframe

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Violations Leading to Enforcement (cont.)

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- Failure to obtain Authorization to Operate
- Failure to obtain Temporary Authorization to Operate
- Failure to display Air Sticker (gasoline trucks)/loading with invalid Air Sticker
- Failure to submit required reports

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Violations Leading to Enforcement (cont.)

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- Failure to minimize emissions
- Failure to conduct required testing
- Open Burning
- Asbestos/Demolition
  - Donald Barron, Chief of Special Services Section

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Enforcement Reporting

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- NOVs and Orders discussed with EPA Monthly
- Formal Enforcement uploaded to national database (Integrated Compliance Information System - ICIS) (not public)
- From ICIS, enforcement loaded to public database (Enforcement and Compliance History Online - ECHO) www.epa.gov/echo

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EPA's Role

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- EPA has authority to enforce
  - SIP (State Implementation Plan)
  - ADEM's Air Pollution Control Regulations
  - ADEM's Air Permits
    - Minor Source
    - SMOP
    - Major Source (Title V)
    - NSR/PSD
- EPA may over-file a State Action if it believes:
  - Penalty is too low
  - State did not assess a penalty, but penalty is warranted
  - State Compliance schedule too long
  - State did not adequately address the violation

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EPA's Role (cont.)

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- Inspections
  - EPA may choose to inspect any facility
  - ADEM usually will attend inspection
  - EPA inspection reports can take significant amount of time to be completed
  - Recent EPA inspections
    - Oil and Gas
    - Flaring and LDAR programs (using infrared cameras)
    - Chemical Plant

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Inspections 101

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- What we look for
  - Copy of the Permit
  - Paperwork (applications, reports, inspections, maintenance, etc.)
  - Data (monitoring, calibrations, etc.)
  - Equipment properly operating
  - Equipment/Processes properly permitted
  - Visible Emissions

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Inspections 101 (cont.)

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- Common Issues Found
  - No Back-up for the Plant Contact
  - Missing Self-Inspection Records
  - Missing Calibration Data
  - Read your permit to know what we will be looking for so you will be ready
- Previous Inspection Memos can be found on ADEM's eFile site

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Questions?

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ExxonMobil

August 22, 2019

Mobile Bay Operations Methane Reduction Program

Energy lives here™

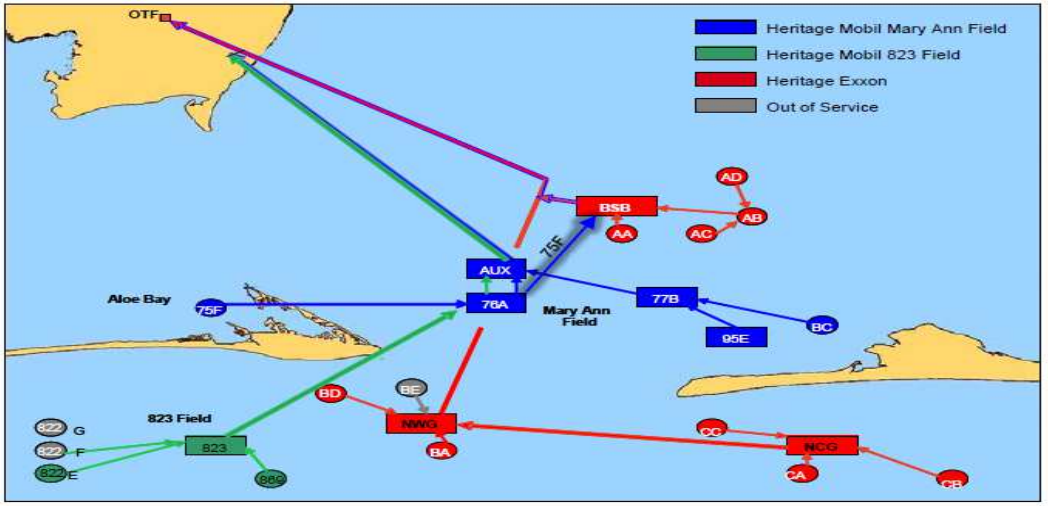
Mackenzi Shepherd
Environmental Engineer

Angus Lam
Safety, Security, Health, & Environment Supervisor

Mobile Bay Overview

- 7 Major Platforms
  - 4 Offshore Title V Permits
  - 13 Template Platforms
  - 29 Wells

- Onshore Treating Facility
  - Primary MDEA amine systems for H2S/CO2 Removal
  - Two independent SRU trains (Claus and tail gas units) achieve >99.9% sulfur recovery
  - 3 Gas Turbine Generators



American Petroleum Institute (API) – Environmental Partnership Program (EPP)

"To continuously improve the industry's environmental performance by taking action, learning about best practices and technologies, and fostering collaboration in order to responsibly develop our nation's essential natural gas and oil resources."

- Continually reduce methane emissions
- Advance strong performance across the gas value chain
- Improve accuracy of methane emissions data
- Advocate sound policy and regulations on methane emissions
- Increase transparency

ExxonMobil joined API's EPP and Oil & Gas Climate Initiative and pledged to reduce methane emissions by

15%

Before 2020

2 Phases

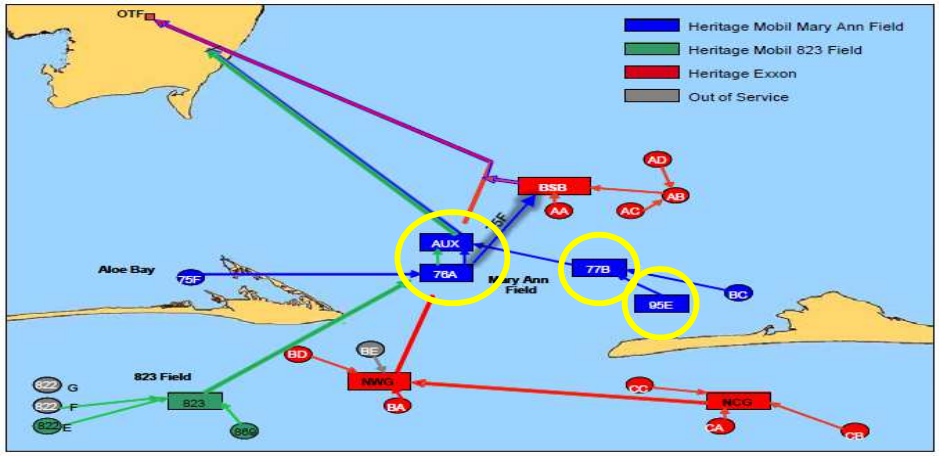
Pneumatic Controller Replacements

Leak Detection and Repair Surveys

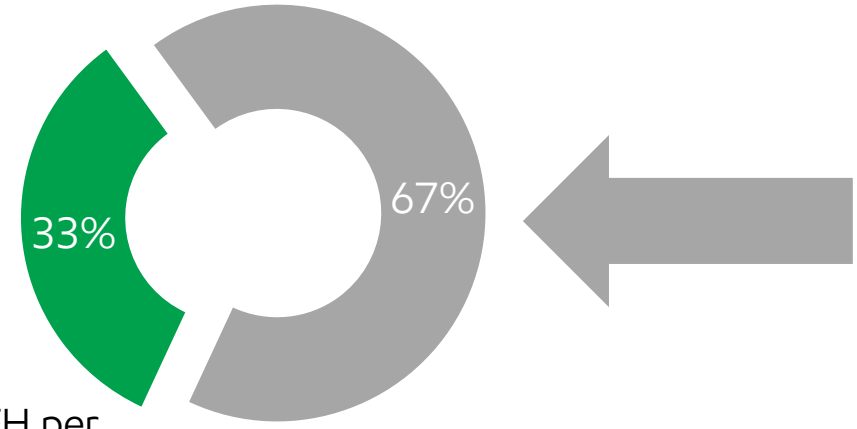
Pneumatic Controllers

Replace all (50) natural gas continuous high-bleed (12scfh) pneumatic controllers at Mary Ann Field platforms (76A/Aux, 77B, 95E) with low-bleed (4scfh) controllers

- Replacement campaign began in July 2018
- 85 Man Hours & 7 Hours Downtime
- Completed implementation and labeling March 2019



Pneumatic Controllers

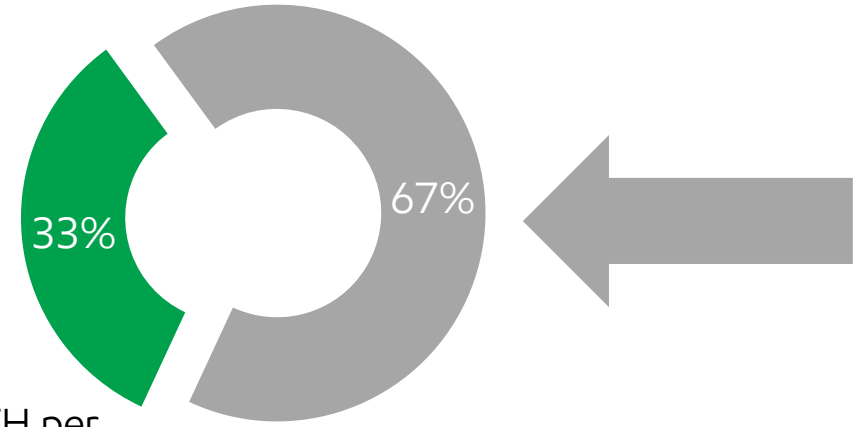


4 SCFH per Controller

3.5 Million SCF Natural Gas per year

Pneumatic Controllers

Methane Reductions



4 SCFH per Controller

74.8 tons of Methane

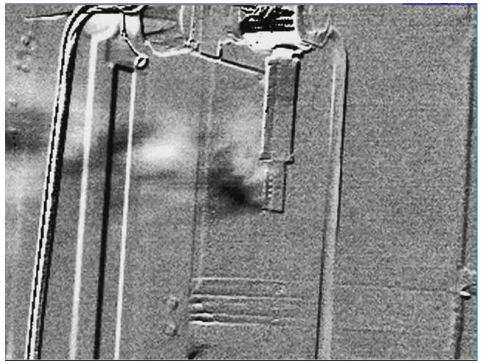
per year

Leak Detection and Repair Surveys

Increase annual in-house Leak Detection and Repair (LDAR) surveys to quarterly with 60 day repair period.

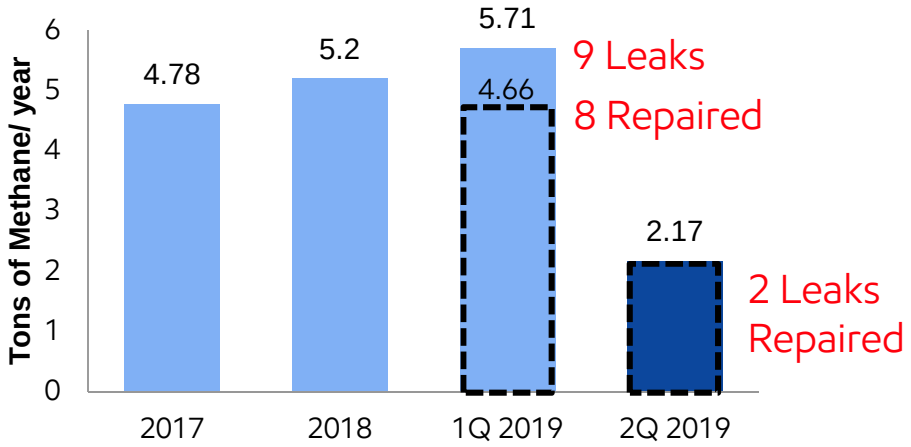
- Started quarterly surveys in 1Q 2019
- Potential to eliminate 1-5 tons per year of Methane at OTF
- 4 Man hours per survey
- "Keep product in the pipe"

Leak Detection through Infrared Camera



Leak Detection and Repair Surveys - Statistics

Methane Reductions



6.83 tons of Methane per year

81.6 Tons

Of Methane Emissions Eliminated in 2019

ExxonMobil

Thank you!

Questions?

Shell Chemical LP - Mobile Site

2018 Air Conservationist of the Year
for Marine Vapor Recovery Project

Michael Hamner
Environmental Specialist

Kelley Langlois
Environmental Engineer

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Mobile Site Background

- Original facility was built and operated by Louisiana Land & Exploration Company in 1975
- Shell purchased the facility in 1996
- Processes 100% domestic crude
- 85,000 BPD refinery with truck loading facility and barge loading facility
- Currently run 100% domestic crude
- Produces feedstocks for Shell Chemical Plants
- Also produces gasoline, diesel, jet fuel and LPGs
  - **56,000 cars per day are fueled by the Mobile Site!**

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Barge Loading Activities

- Dock throughput and emissions are less than the thresholds for which Marine Vapor Recovery is required
- 10 barges total including 2 - 3 Light Olefin Feed (LOF) barges are loaded at the Refinery Dock per month
  - LOF is a high benzene product that is used as a chemical plant feedstock
- LOF Loading was a large contributor to VOC and HAP emissions

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LOF Loading Controls Options

Vapor Combustor Unit

- Easy to maintain

- CO_2 and NO_x emissions

Vapor Recovery Unit

- Net emission reduction

- Expensive

Route Vapors to Existing Flare

- Cheapest Option

- Increases CO_2 emissions from flare

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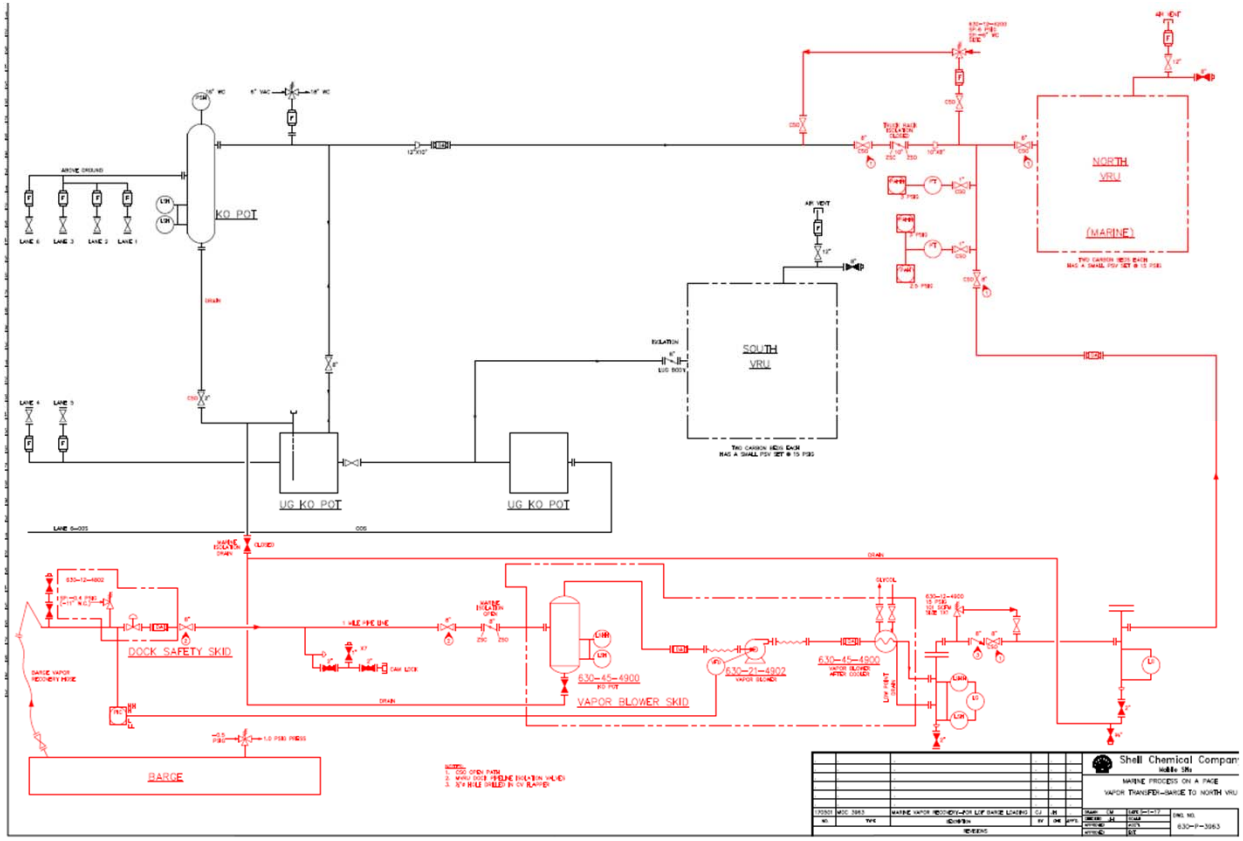
Marine Vapor Recovery System Overview

- Installed piping from Refinery Dock to existing Vapor Recovery Unit (VRU) at the Truck Rack
- A dock vapor transfer blower and VRU booster vacuum blower were installed to help move the vapor through the 1-mile long stretch of pipe
- A glycol cooler was added at the inlet of the VRU to increase it's treating capacity



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Coast Guard Certification

33 CFR Part 154, Subpart P – Marine Vapor Control Systems

Under this rule, facilities that control emissions generated during marine oil transfer operations are required to meet certain system design requirements for the vapor collection system and vapor control device such as:

- Meeting relevant ANSI and NFPA standards;
- Use and proper location of Detonation Arrestors;
- Monitoring of certain parameters such as pressure, temperature, and oxygen content; and
- Using these monitoring devices to trigger alarms and/or shutdowns if operations exceed certain parameters

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Results

- Emission reduction
  - 1 ton of benzene
  - 35 tons of VOCs
- Community recognition
  - Letters from Mobile and Saraland Mayors
- Awards
  - People for Environmental Partnership Environmental Stewardship Award
  - Alabama Wildlife Federation Award

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Governor's Conservation Achievement Awards

"The Alabama Wildlife Federation's Governor's Conservation Achievement Awards are the most prestigious conservation awards in the state. For over 40 years, the awards have been presented to individuals and organizations that make great contributions to the conservation of our wildlife and related natural resources, the natural elements upon which all life depends." - Alabama Wildlife Federation

AIR CONSERVATIONIST AWARD - To recognize outstanding efforts of an individual, group, firm, or agency toward improvement of air quality in Alabama.

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Mobile Partners for Environmental Progress (PEP) Environmental Stewardship Award

Since 2005, the PEP Board of Directors has presented the PEP Environmental Stewardship Awards to recognize PEP members whose work has made a significant and positive contribution to the Gulf Coast region in three crucial areas: economic growth, environmental health and social responsibility.

PEP

Partners For Environmental Progress

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PULP & PAPER INDUSTRY UPDATE

HARRIS HURST, PE

WESTROCK – DEMOPOLIS MILL

TYPICAL MILL

Title V Major Source Operating Permit – Black Liquor Evaporators, Chemical Recovery Furnace with Smelt Dissolving Tank Vent Stack Scrubber, Power Boilers, Lime Kiln, Digesters, Brown Stock Washers, Bleach Plants, Chlorine Dioxide Plant, Pulping System vents and condensate collection and treatment, and Stationary Engines

40 CFR 60 New Source Performance Standards, Subparts A, Db, BB, IIII, and JJJJ

40 CFR 63 National Emission Standards for Hazardous Air Pollutants, Subparts A, S, MM, ZZZZ and DDDDD

Monthly LDAR inspections and quarterly ASB HAP tests

Routine reporting and periodic stack testing

TYPICAL MILL CONTINUED

Pollution control devices: wet scrubbers (packed column, low delta-p and venturi), Electrostatic Precipitators, and Fabric Filters with parametric monitoring, annual and once in five year emissions testing.

Regulated Continuous Emission Monitors (SO_2, NOx, CO, TRS, O_2, Opacity)

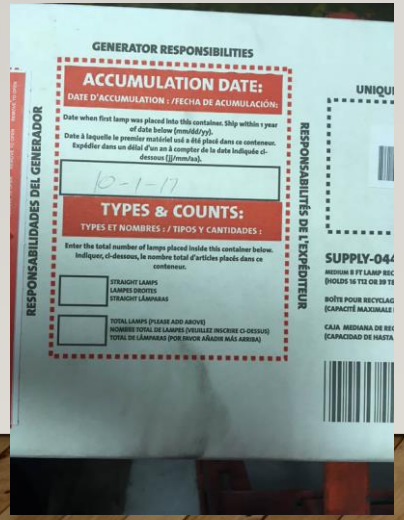
NPDES Permit for process and stormwater outfalls – effluent treatment system, Stormwater BMP, Spent Pulping Liquor BMP Plan, SPCC Plan and required inspections and river water quality monitoring. Internal limits on bleach plant effluent and end-of-pipe limits at final effluent treatment and stormwater outfalls.

Landfill Permits volume reporting with groundwater and explosive gas monitoring and best management practices.

Alabama Department of Health Permit for Radioactive Sources

TYPICAL MILL CONTINUED

Annual Toxic Release Inventory
Annual Tier II Hazardous Chemical Inventory with quarterly updates
Annual Greenhouse Gas Reporting
Annual water use report to ADECA Office of Water Resources
Medical Waste Generator
Universal Waste Generator
Very Small Quantity Generator of Hazardous Waste
Used Oil Generator & Processer
Asbestos abatement, disposal and demolition notices
Chemical Accident Prevention
CERCLA Continuous Release Report
Stratospheric Ozone Depletion
Corps of Engineers permits for river structures & development
Wetlands
ADCN-State Lands Division submerged pipeline right-of-way lease
TSCA reporting



Industry support

AF&PA serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy

NCASI non-profit research organization supported by members companies in the P & P Industry; wood products industry; forest managers and environmental consultants.

MA is the only trade association in the state dedicated exclusively to the competitive, legislative, regulatory and operational interests and needs of manufacturers and their partner industries and businesses.

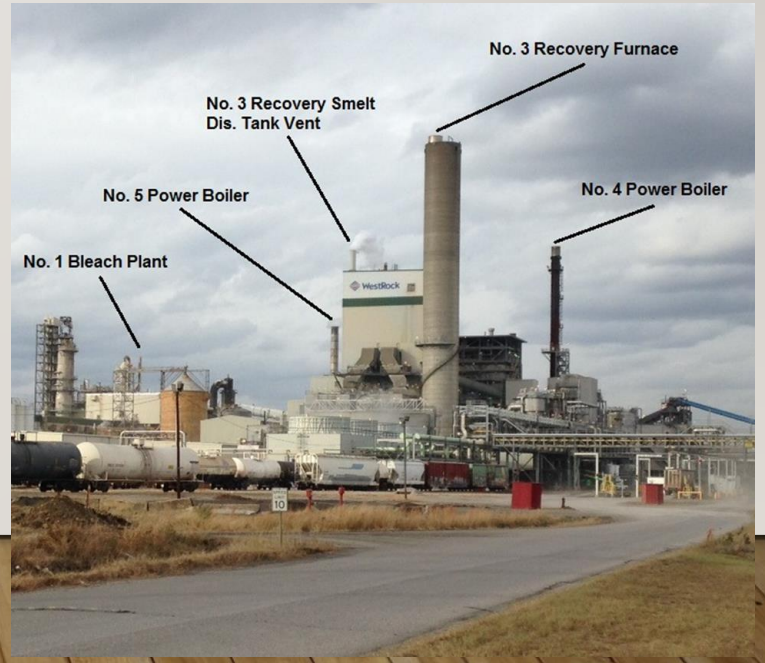
Issues, Opportunities and Changes

1. Carbon neutrality of biomass

2. 40 CFR 63, Subpart MM, Combustion Sources at Kraft, Soda, and Sulfite Pulp and Paper Mills

3. 40 CFR 63, Subpart S, Pulp and Paper Industry

4. 40 CFR 63, Subpart DDDDD Industrial/Commercial/Institutional Boilers and Process Heaters



Boiler MACT

Expected Revised Emission Standards

Subcategory	Pollu-tant	Units	Current	Expected	Change
Existing Solid Fuel	HCl	lb/MMBtu	0.022	0.020	-9.1%
Existing Solid Fuel	Hg	lb/MMBtu	5.7E-06	5.40E-06	-5.3%
Existing Wet Biomass Stokers	CO	ppm@3% O2	1,500	1,020	-32.0%
Existing Wet Biomass Stokers	PM	lb/MMBtu	0.037	0.034	-8.1%
Existing Biomass Fluidized Bed	CO	ppm @3% O2	470	210	-55.3%
Existing Biomass Fluidized Bed	PM	lb/MMBtu	0.11	0.021	-80.9%
Existing Liquid Fuel	HCl	lb/MMBtu	1.10E-03	3.5E-04	-68.2%
Existing Liquid Fuel	Hg	lb/MMBtu	2.0E-06	0.7E-06	-65.0%
Existing Heavy Liquid Fuel	PM	lb/MMBtu	6.2E-02	?	?
New Solid Fuel	HCl	lb/MMBtu	0.022	0.020	-9.1%
New Solid Fuel	Hg	lb/MMBtu	8.0E-07	8.0E-07	0%
New Biomass Fluidized Bed	CO	ppm @3% O2	230	210	-8.7%
New Biomass Fluidized Bed	PM	lb/MMBtu	0.0098	0.0098	0%

Issues, Opportunities and Changes

5. EPA reforms to the New Source Review (NSR) air permitting program.
6. PSD Permitting - SEI - MERPs
7. EPA Method 202
8. H_2SO_4 test method
9. PFAS
10. WOTUS - effluent treatment systems
11. HHWQC – Human Health Water Quality Criteria
12. ADEM 335-13-16 Land Application of mill residuals.

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Diesel Emissions Reduction Act (DERA)

Dale Hurst

Air Division

Alabama Department of Environmental Management

August 22, 2019

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Diesel Emissions Reduction Act (DERA)

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- Created as part of the Energy Policy Act of 2005
- Program provides funding to states to install diesel emissions reduction devices, replace, rebuild, or repower program-eligible highway and non-road diesel engines
- Must control or replace **DIESEL-fired** equipment
- Funding provided to states on an annual basis
- Funding available to public and private fleets

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ADEM DERA Projects

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- Began funding projects in 2008
- Approximately $3 million awarded by ADEM
- 39 Switcher Engines retrofitted with idle reduction systems
- 415 vehicles and equipment retrofitted with emission control devices
- 44 Long-haul trucks retrofitted with idle reduction devices
- 31 Diesel-only Transport Refrigeration Units replaced with hybrid-electric units to utilize 51 electrified dock spaces

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2019 – 2020 DERA Program

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- Will match base amount from VW Settlement
- Will receive 50% bonus from DERA funding for providing voluntary, non-federal match
- Approximately $685,000 available for diesel projects for 2019 - 2020

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DERA Eligible Projects

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- Class 5 – Class 8 Medium and Heavy-duty Highway Vehicles (Long-haul and local freight trucks, Drayage, Garbage, Cement, etc.)
- School, Shuttle, and Transit Buses
- Line-Haul and Switcher Locomotives
- Marine Engines (Ferries, Tugboats)

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DERA Eligible Projects

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- Marine and Locomotive Shore Connection Systems
- Electrified Parking Spaces (eTRU projects)
- Nonroad Vehicles, Engines and Equipment (Eligible areas include construction, port operations, airport operations, agricultural, mining, stationary generators and pumps)
- Cleaner fuels

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DERA Eligible Projects

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- DERA program allows a 25% to 100% cost share provided by ADEM, depending upon project type
- Percentage of funding provided for a project is at ADEM's discretion
- Funds have primarily been awarded on a reimbursement basis

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Scrappage Requirement

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- **All** diesel vehicles, equipment, and engines replaced through the use of DERA funding **MUST BE SCRAPPED**.

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ASSOCIATION

Alabama Chapter

Questions

Dale Hurst 334-271-7882

Anthony Smiley 334-271-7803

Alabama Air & Waste Regulatory Update

What's New with CUSTARD: *ADEM's UST Electronic Application*

Latoya A. Hall
UST Compliance Section Chief

AIR & WASTE MANAGEMENT ASSOCIATION
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CUSTARD is…

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Comprehensive UST Application for Reporting Data

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What's New with CUSTARD

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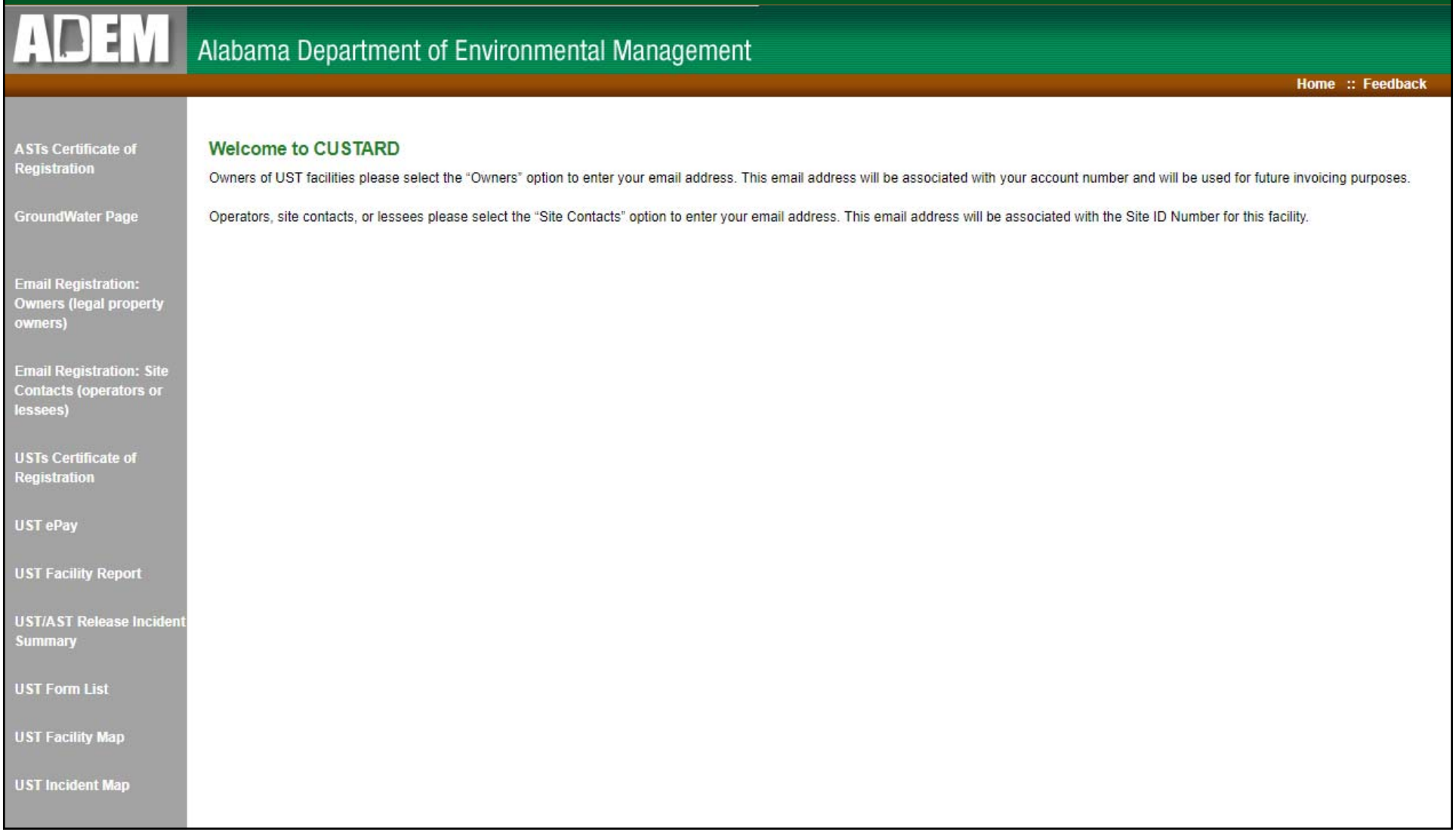

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What's New with CUSTARD

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- Owner and Site Email Registration
- UST and AST Certificate of Registration
- UST Facility Report
- UST Facility Map
- UST Incident Map
- Shortcut to Groundwater Page
- UST epay
- UST Form List

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Register as Owner

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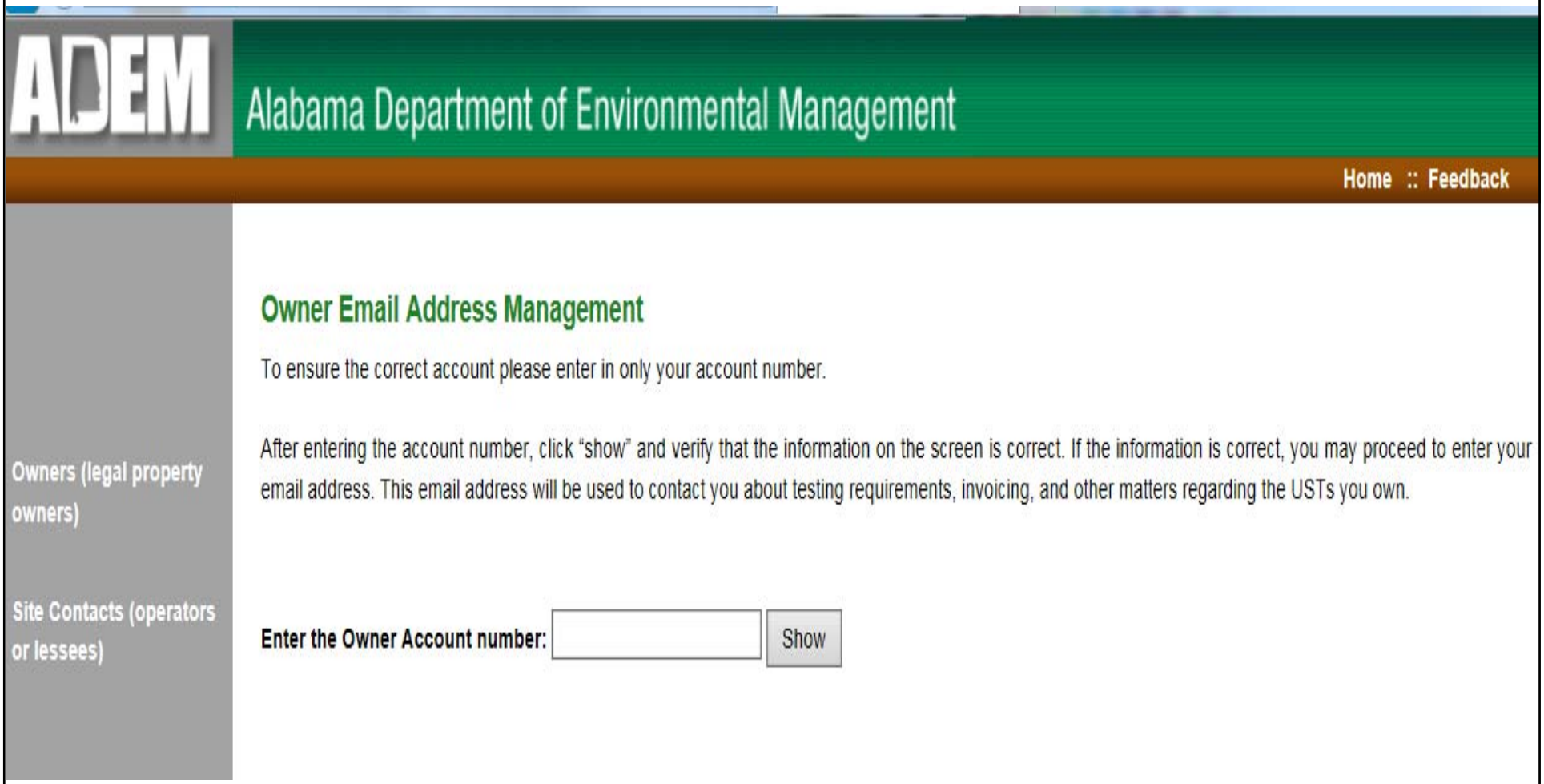

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Register as Site Contact

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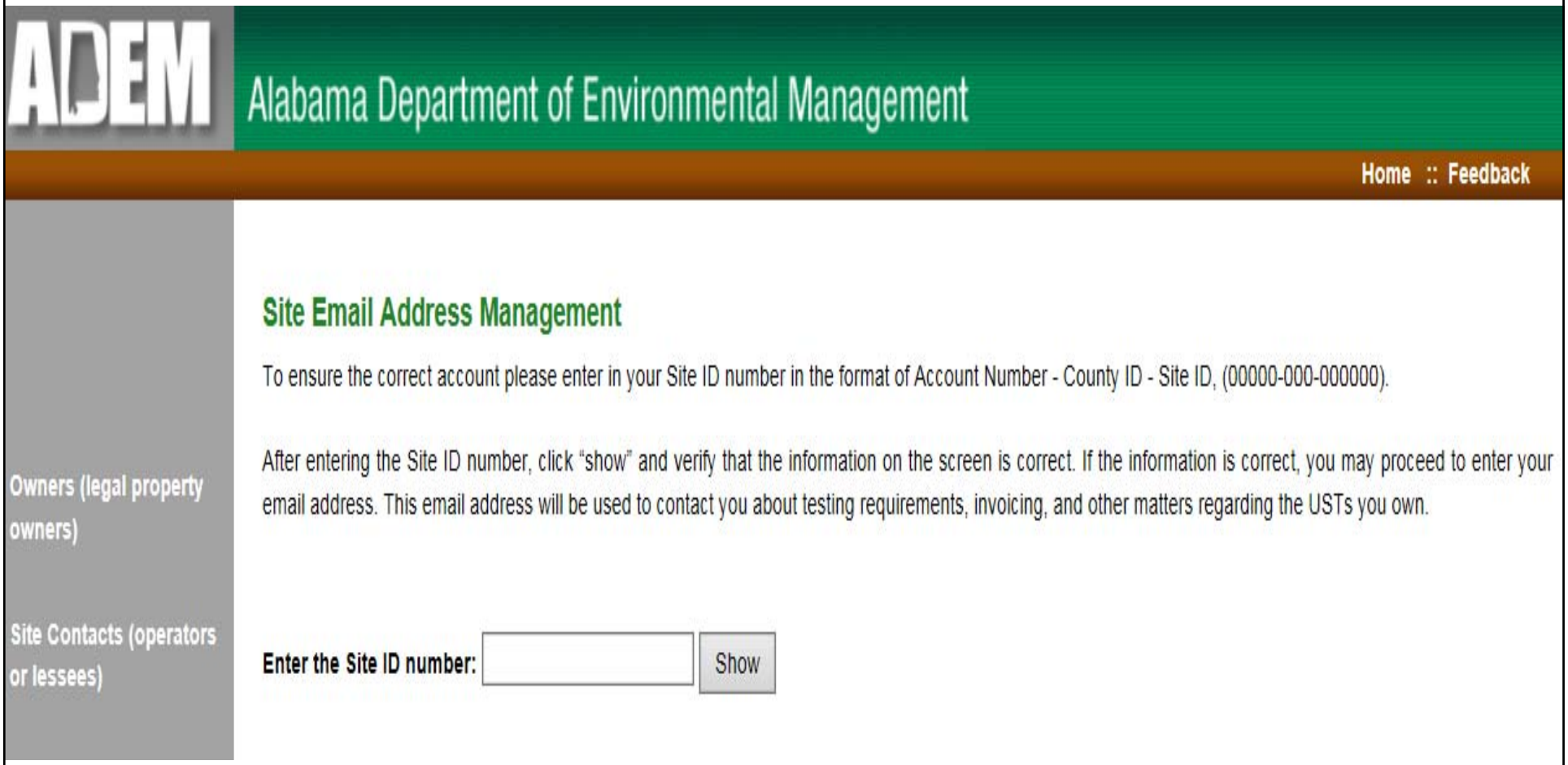

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Why should I register my email?

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- Email notifications for any upcoming required testing (emails will replace the current post card reminders)
- Notify owners and operators after an inspection has been complete
- Notify owners and operators of any available training and continuing education classes

ADEM Testing Email Notifications

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Alabama Chapter

Subject: Line Tightness Test Reminder

[redacted]

Facility ID: [redacted]

According to our records, you are the owner/operator of one or more underground storage tanks located at [redacted] requiring annual line tightness tests.

Line leak detectors must also be tested annually and are often tested in conjunction with a line tightness test.

Our records indicate that the last annual line tightness test/leak detectors test was conducted on 2/14/2018 and is approaching the 1 year expiration date.

Please submit the required annual line tightness test/leak detectors report such that they are received on or before 2/14/2019.

If you have a question about this notice, or would like more information concerning the particular testing requirements for the tank(s) that you own, please use the contact information below to let us know.

Email test results or use the address below for regular mail.

Alabama Department of Environmental Management
UST Compliance Section
P.O BOX 301463
Montgomery, Alabama 36130-1463

Please include the facility identification number on all submittals.

Email: USTcompliance @adem.alabama.gov

Phone: 334-270-5655

Fax: 334-270-5631

Testing Email Notifications

adem.alabama.gov

AIR & WASTE MANAGEMENT ASSOCIATION
Alabama Chapter

Subject: Cathodic Protection Test Reminder

[redacted] Facility ID: [redacted]

According to our records, you are the owner/operator of one or more underground storage tanks located at [redacted] requiring Cathodic Protection tests.

Cathodic Protection (CP) tests must be conducted and that report submitted to the Department every 3 years. Our records indicate that the last CP test was conducted on 2/12/2016 and is approaching the 3-year expiration date.

Please submit the required CP Test Report such that it is received on or before 2/12/2019.

If you have a question about this notice or would like more information concerning the particular testing requirements for the tank(s) that you own, please use the contact information below to let us know.

Please email or mail all test results to the UST Compliance Section.

Alabama Department of Environmental Management
UST Compliance Section
P.O BOX 301463
Montgomery, Alabama 36130-1463

Email: USTcompliance@adem.alabama.gov

Please include the facility identification number on all submittals.

Phone: 334-270-5655

Fax: 334-270-5631

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General Email Notifications

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"Dear UST owner or site contact,

As you may be aware, the UST regulations have changed and new requirements have come into effect. Please follow the link below to read guidance on the new regulations:

http://www.adem.alabama.gov/DeptForms/DraftUSTRegRevisionsGuidance.pdf

Also, the Alabama TOOLS program has updated the UST Reference Handbook. This handbook provides tank owners and operators an overview of UST Systems. The handbook also provides education and guidance on Alabama's UST Regulations. The guidance includes both the existing and new requirements for UST Systems. This book was mailed out the week of November 5th, so be on the lookout for it your mailbox. One book will be sent to each registered tank owner. "

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What is a Facility Report?

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- A detailed site summary
- A site testing schedule to included the latest test dates and upcoming required test
- Tank and piping information including construction material
- Type of product stored in each Tank
- Overfill protection method used at the site
- Release detection method used at the site

Facility I.D: 16273-73-21204 ADEM UST Facility Report

General Information	
Owner Name: UAB DEPT. HEALTH & SAFETY	Owner Address: 933 19TH STREET SO., SUITE 445 BIRMINGHAM , AL 35294
Site Name: WOMENS AND INFANTS CENTER	Site Address: 1700 6TH AVENUE SOUTH BIRMINGHAM, AL 35233
Number of tanks at site: 2	
Last Inspection Date:	

Facility Testing Schedule		
Test or Inspection	Last Test Date (YYYY/MM/DD)	Next Test Date (YYYY/MM/DD)
General Testing		
Annual WalkThrough Inspection		
Overfill Device Inspection		
Spill Bucket Test		
Cathodic Protection Testing: Impressed Current CP		
Leak Detection Testing		
ATG Probe/Sensor Testing		
Annual Line Tightness Testing		
SIR Annual Report Summary		
Containment Sump Integrity Test		

Tank Information
Tank Number: 1 of 2 , Unique Tank #52700
Status of Tank: Currently In use
Tank Install Date:2010-01-01
Number of tanks if Manifolded: 0 | Number of Compartments: 1 | Estimated Total Capacity(gal): 15000
Product stored is : Diesel
Tank Usage: Emergency Power Generator
Tank Construction Material: Double Wall, Fiberglass
Pipe Construction Material: Double Wall, Fiberglass Plastic
Tank Method of Overfill Protection: High Level Alarm
Tank Method of Release Detection: Interstitial Monitoring w/ Secondary Containment Type of IM Method:
Piping Type: Pressure
Presssurized Piping Method of Release Detection, Group I: Sump Sensor w/ relay tp shutoff pun
Presssurized Piping Method of Release Detection, Group II: Interstitial Monitoring w/ Secondary Containment Type of IM:
Tank Number: 2 of 2 , Unique Tank #52701
Status of Tank: Currently In use
Tank Install Date:2010-01-01
Number of tanks if Manifolded: 0 | Number of Compartments: 1 | Estimated Total Capacity(gal): 15000
Product stored is : Diesel
Tank Usage: Emergency Power Generator
Tank Construction Material: Double Wall, Fiberglass
Pipe Construction Material: Double Wall, Fiberglass Plastic
Tank Method of Overfill Protection: High Level Alarm

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UST Facility Map (eMap)

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- The UST Regulatory Sites (Facility) map allows users to see active Underground Storage Tank (UST) Compliance Sites
- The UST Facility Map will allow anyone to generate a Facility Report only having limited information about that site.

UST Facility Map (eMap)

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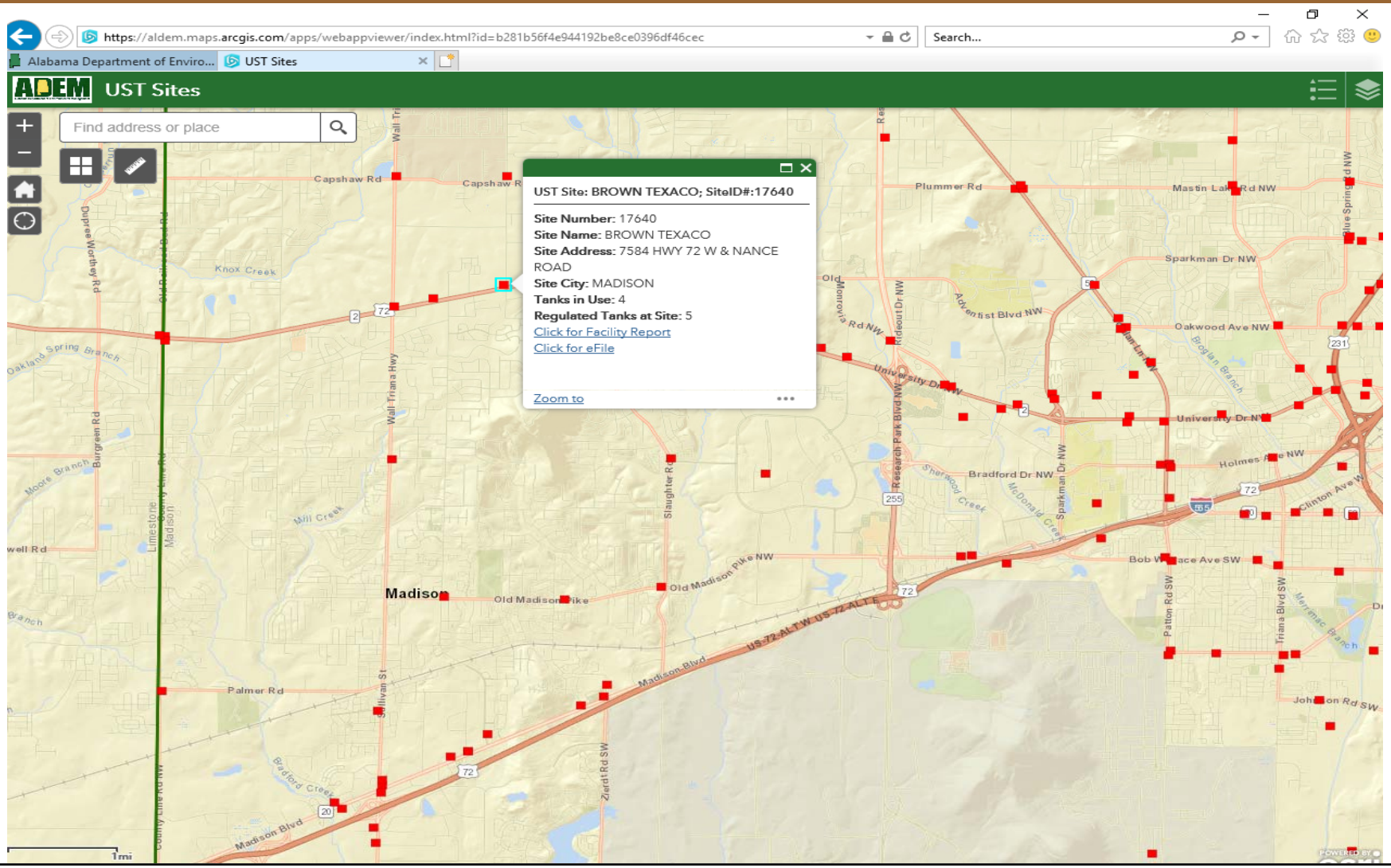

UST Incident Map (eMap)

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- The UST incident map allows users to see all current and past release incidents at Underground Storage Tank (UST) sites
  - Sites with an end cleanup date are in red
  - Sites with no end cleanup date are in green
- The UST incident map will allow anyone to generate an incident summary and get other details about the site.

ADEM UST Incident Map (eMap)

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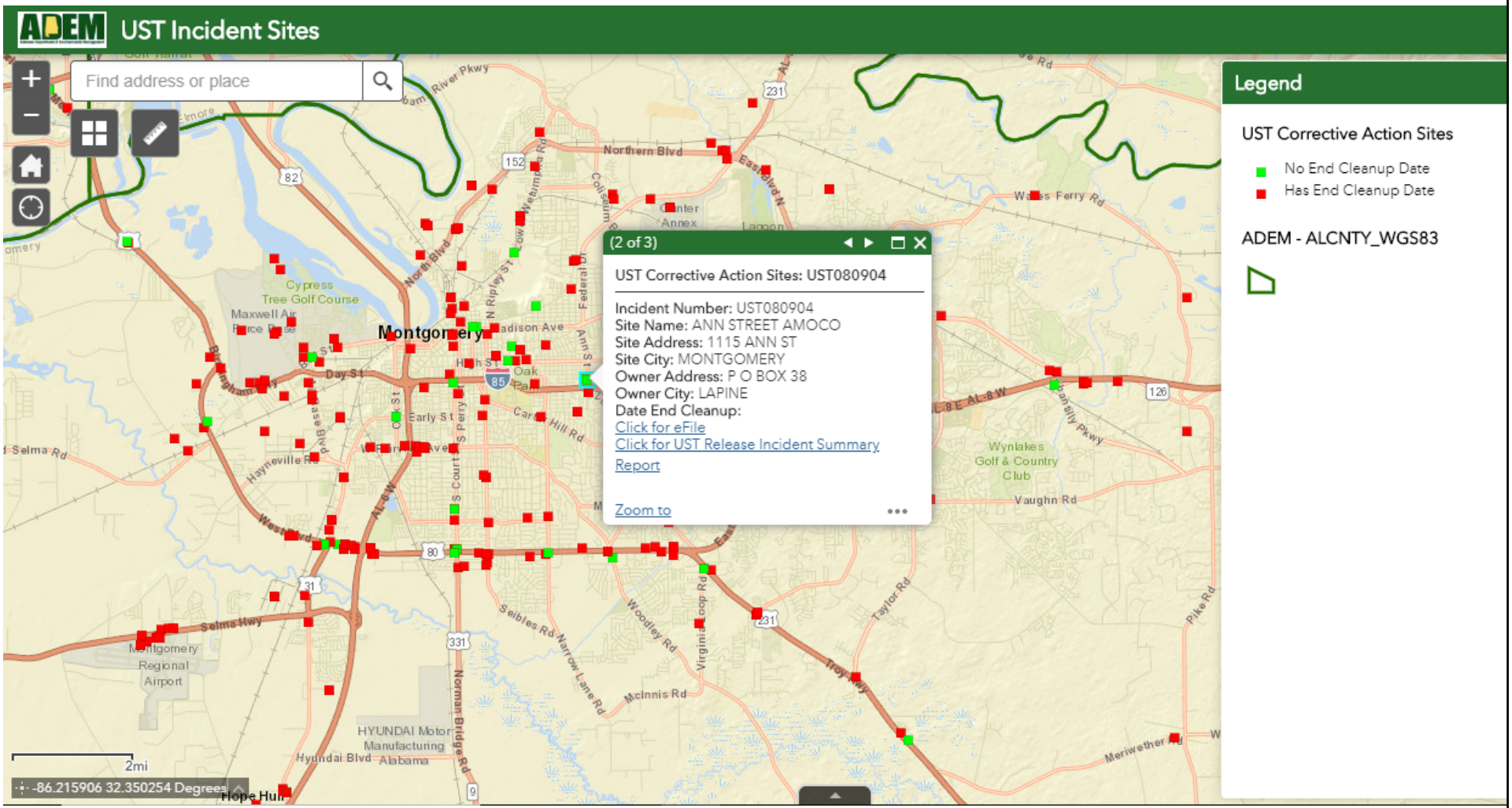

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UST Incident Summary (active)

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UST/AST RELEASE INCIDENT NUMBER: UST110611

General Information	
UST/AST Release Incident Number: UST110611	Facility I.D. Number 12530-101-821
Site Name: ATLANTA HWY FOOD MART	Site Adddress: 5440 ATLANTA HWY MONTGOMERY, AL
Owner Name: INTERSTATE OIL CO INC	Owner Address: 2335 SOUTH FORBES DRIVE MONTGOMERY, AL 36110
Owner Contact Name: RICK NORTON EXT 113	
Release Incident Status	
NOV/NOR Issuance Date:	2011-07-19
Status of Investigation/Cleanup:	Open Incident
ADEM Contact Information	
ADEM Project Manager Name: Jeff Aul	
ADEM Project Manager Phone Number: (334) 274-4206	
ADEM Project Manager Email: jaul@adem.alabama.gov	

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UST Incident Summary (NFA)

AIR & WASTE MANAGEMENT ASSOCIATION
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UST/AST RELEASE INCIDENT NUMBER: UST940402

General Information	
UST/AST Release Incident Number: UST940402	Facility I.D. Number 17003-101-14936
Site Name: SUPER-LUBE #601	Site Adddress: 5306 ATLANTA HWY MONTGOMERY, AL
Owner Name: SUPER LUBE 10 MINUTE OIL CHANGE INC	Owner Address: 401 E VIRGINIA ST TALLAHASSEE, FL 32301
Owner Contact Name: DOUGLAS BEHRMAN	
Release Incident Status	
NOV/NOR Issuance Date:	1994-04-01
Status of Investigation/Cleanup:	NFA
ADEM Contact Information	
Contact Groundwater Branch: (334) 270-5655	

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More to come…

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Partnership with Windsor

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- The Department is working with Windsor to bring nVIRO to ADEM
- nVIRO is an environmental data management systems (nFORM, nSPECT, nSITE…)
- nVIRO will allow tank owners to submit electronic forms for required testing/inspections, reduce paper usage and improve the timeliness and accuracy of the UST program data collection process

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Benefits of nVIRO

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- It will allow tank owners to submit electronic forms for required testing/inspections
- Reduce paper usage and eliminate data entry for Department staff
- Great improve the timeliness of process data
- Allow for more time to be spent on enforcement
- Increase compliance number

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Any Questions?

AIR & WASTE MANAGEMENT ASSOCIATION
Alabama Chapter

Latoya Hall
334-271-7759
lahall@adem.alabama.gov

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Emerging Technologies

Rick Kelsey
Agriculture/Gas Unit
Natural Resources Section
Chemical Branch
ADEM – Air Division

Alabama Air & Waste Regulatory Update
Montgomery, Alabama
August 22, 2019

ADEM

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Introduction

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"To Boldly Go Where No One has Gone Before!"

Captain James T. Kirk, starship Enterprise

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Objectives

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- Personal Air Monitors/Purple Air
  - Monitors/Sensors
  - Pros/Cons
  - Data
- Optical Gas Imaging IR Cameras
  - Camera
  - Pros/Cons
  - Examples of Images
- Unmanned Aircraft Systems (UAS)
  - Types
  - Pros/Cons
  - Examples of Data Collection and Videos

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Personal Air Monitoring/Sensors

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TZOA

LAPKA

Airbeam

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Purple Air Monitor

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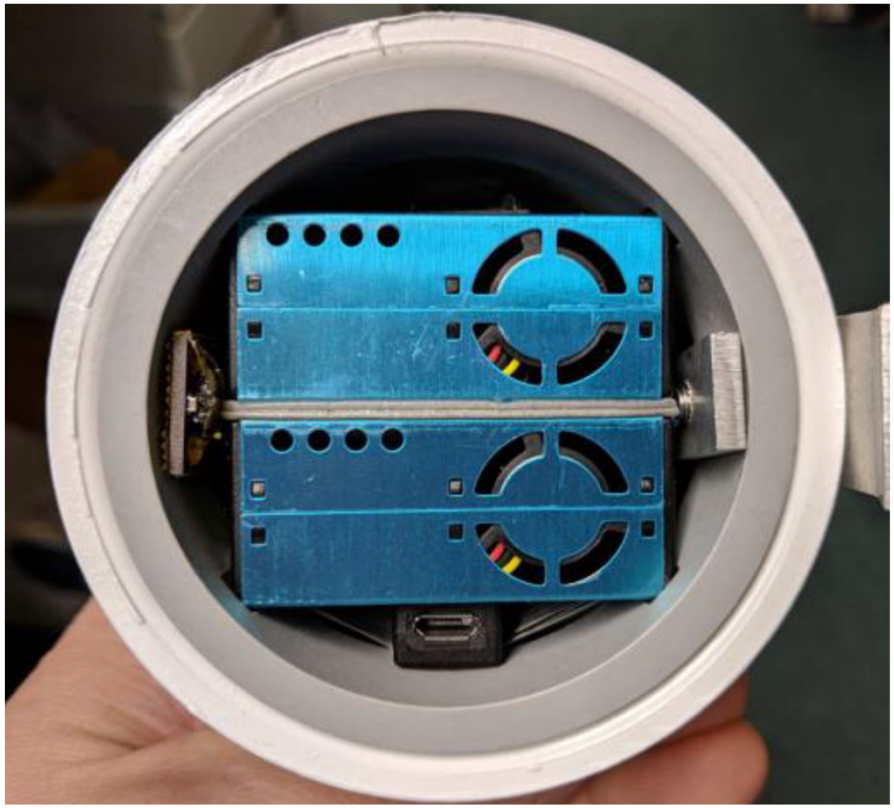

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Purple Air Monitoring Map

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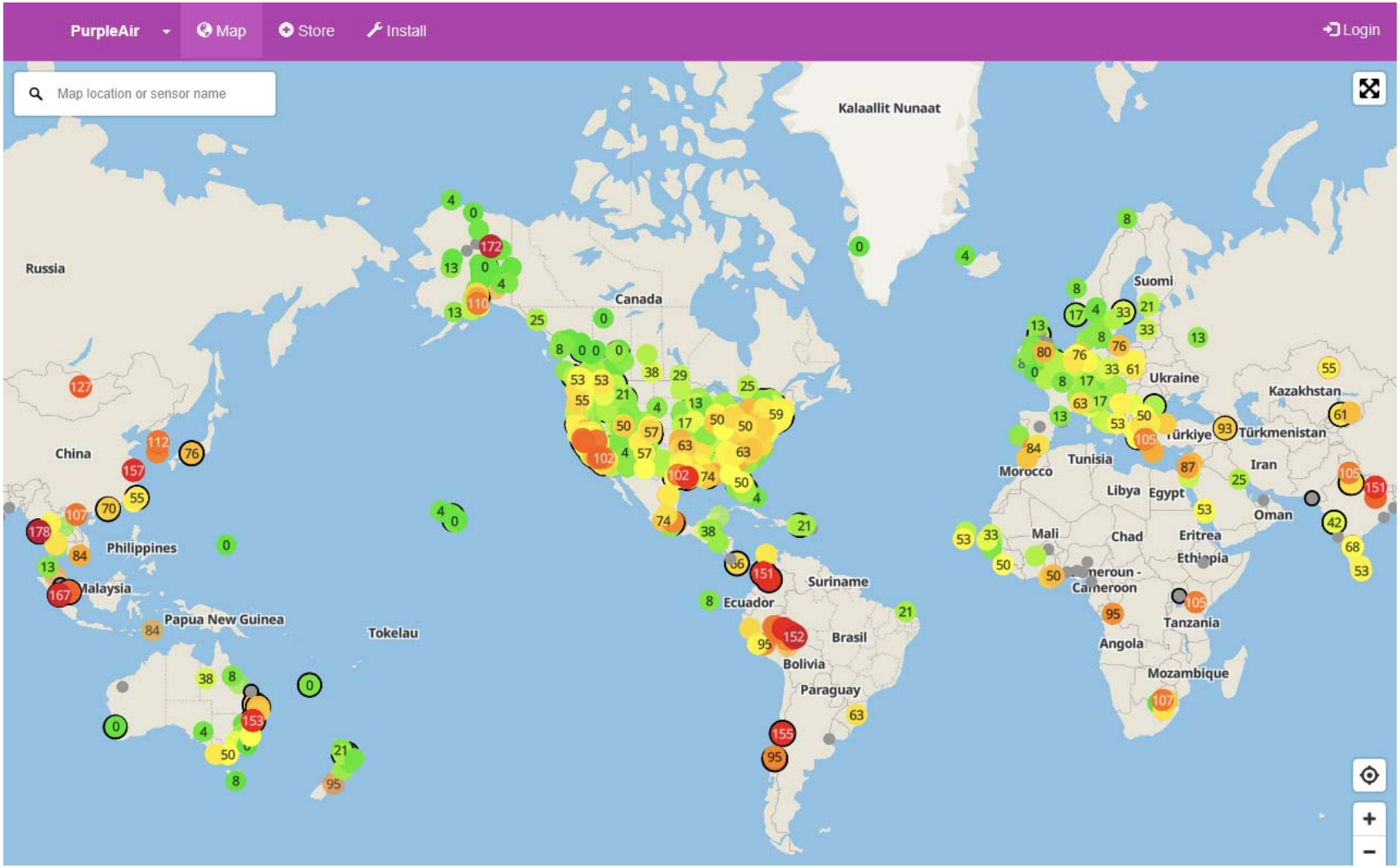

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Purple Air Monitor Map/Info

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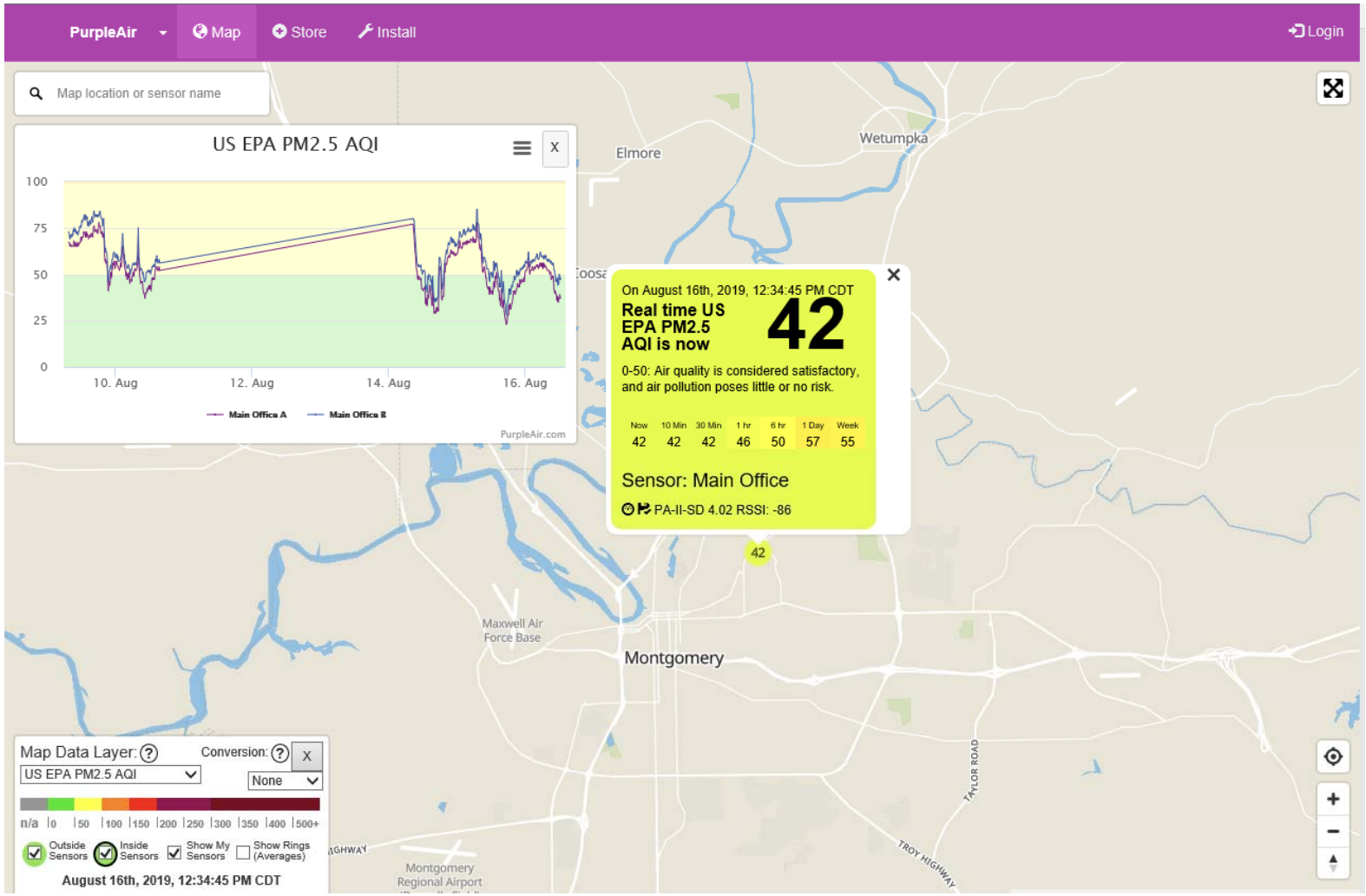

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Purple Air Monitor vs ADEM Air Monitor

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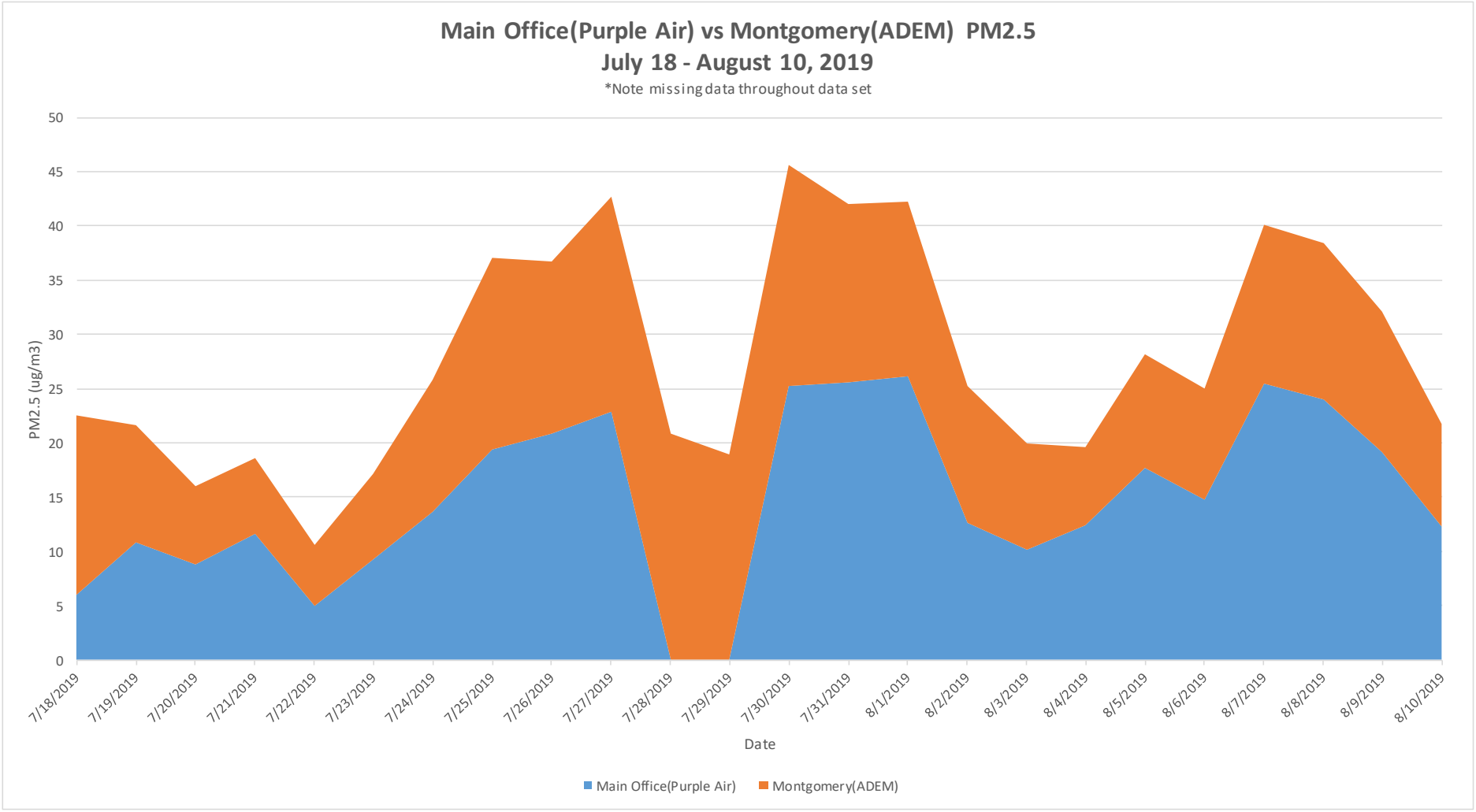

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Pros/Cons & Goals

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- Pros/Cons for Purple Air Monitors
  - Low Cost (~$230)
  - Power & Wifi required
  - Calibration/Maintenance needs?
  - Precise but maybe not accurate data
- Alabama Goals
  - Gain Familiarity
  - Determine QA/QC procedures
  - Determine suitability for program

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OGI Cameras

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OGI Images

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OGI Images

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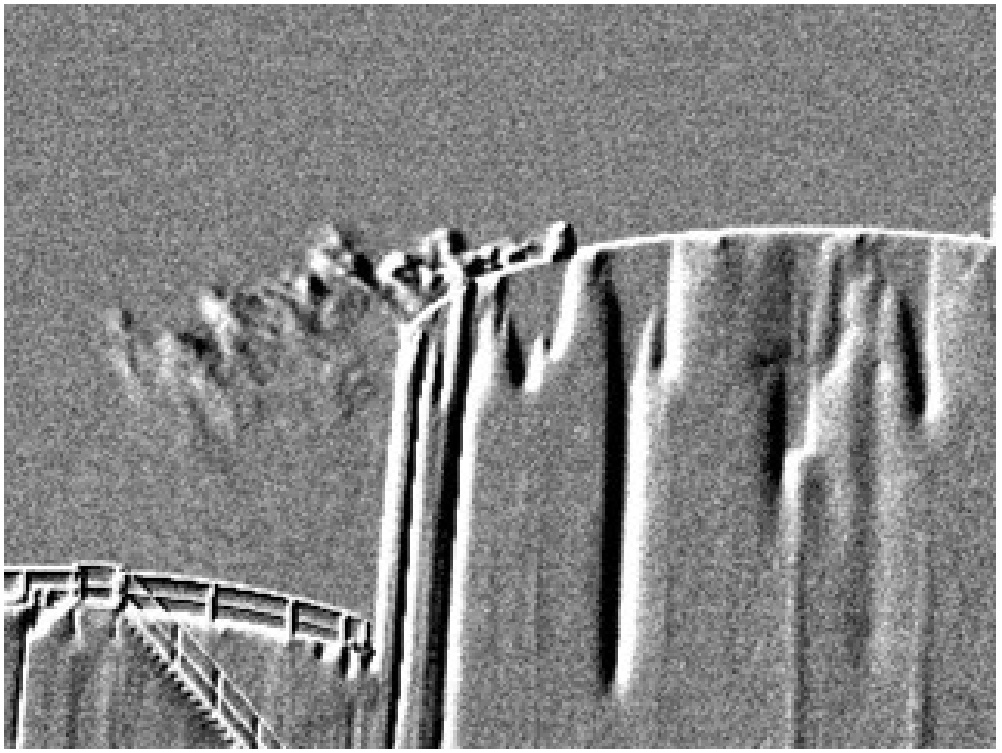

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Pros & Cons

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- Pros
  - Employee Safety
  - Efficiency with Quick Feedback
- Cons
  - Cost ($70k-$100k), +Insurance, +Training
  - Employee Responsibility

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Unmanned Aircraft Systems (UAS)

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"Prosumer" Quadcopter

DJI Phantom 4

Advanced Visible-light Imagery

20-100mp cameras
Zoom lenses

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Unmanned Aircraft Systems (UAS)

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Thermal Imagery

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Unmanned Aircraft Systems (UAS)

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Optical Gas Imaging

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Unmanned Aircraft Systems (UAS)

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Air Monitoring

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Unmanned Aircraft Systems (UAS)

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Air Sampling

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Unmanned Aircraft Systems (UAS)

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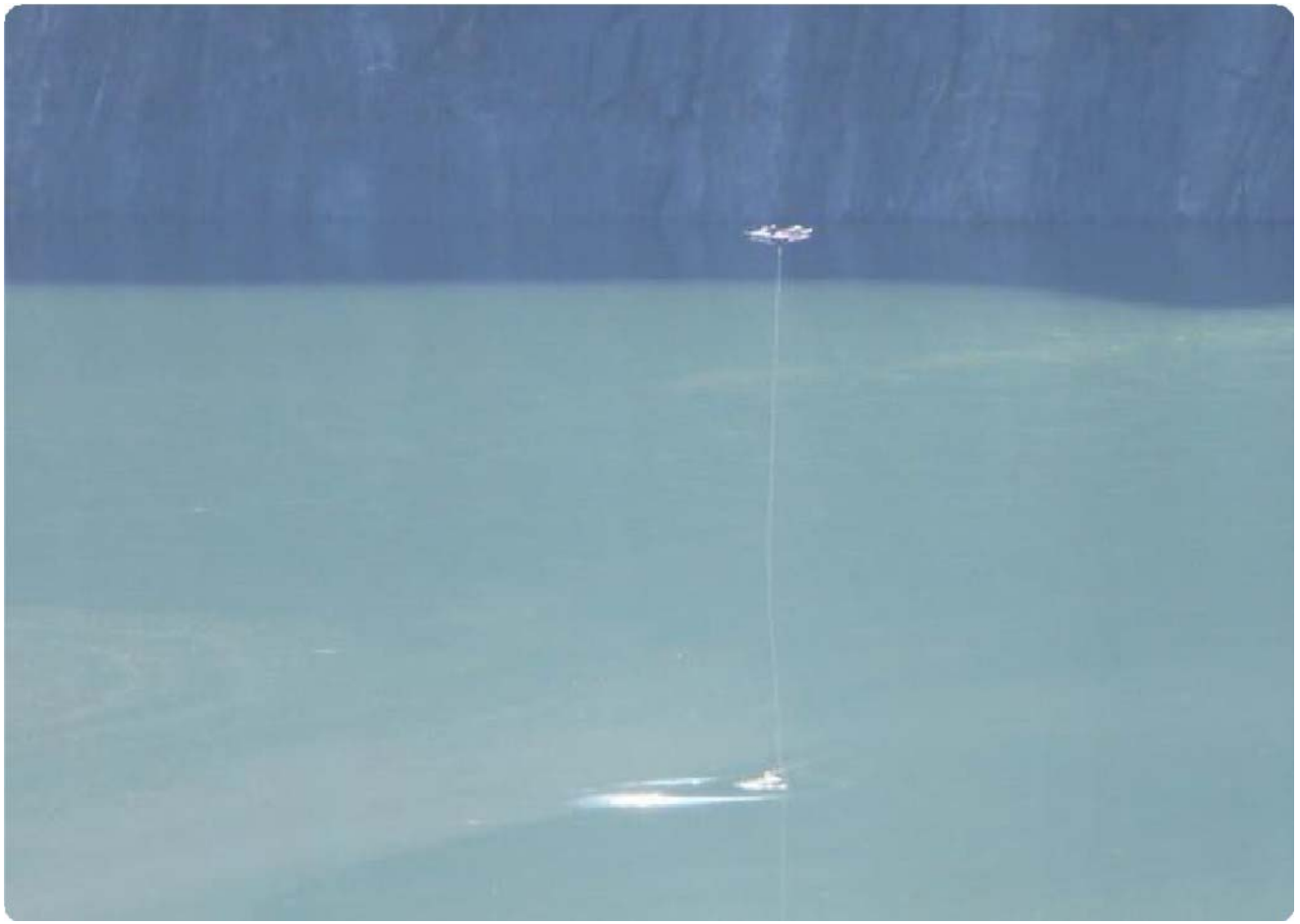
Water Sampling



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Unmanned Aircraft Systems (UAS)

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LIDAR – Light Imaging Detection and Ranging

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Unmanned Aircraft Systems (UAS)

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Ground Penetrating Radar

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Unmanned Aircraft Systems (UAS)

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Intrinsically Safe

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UAS Image

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UAS Image

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Investigation Result

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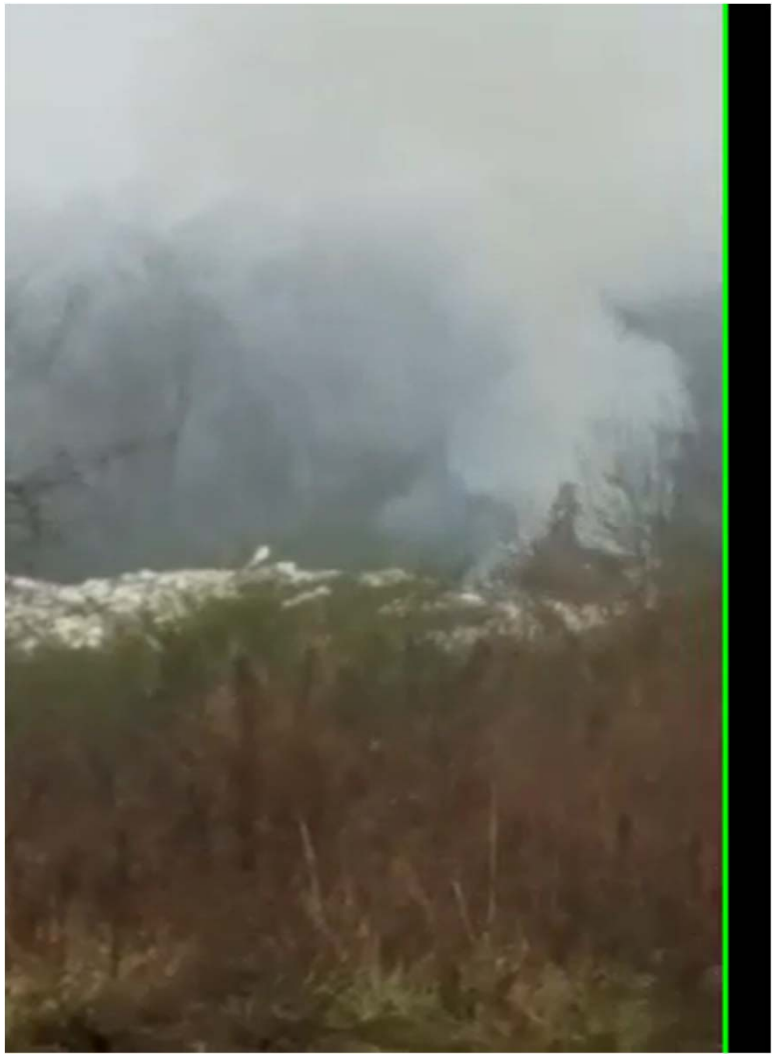

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UAS Data Utilization (2D)

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UAS Data Utilization (3D)

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UAS Pros/Cons

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- Pros
  - Very Informative
  - Employee Safety
- Cons
  - New Program Development
  - Cost
  - Training

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UAS Videos

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Questions?

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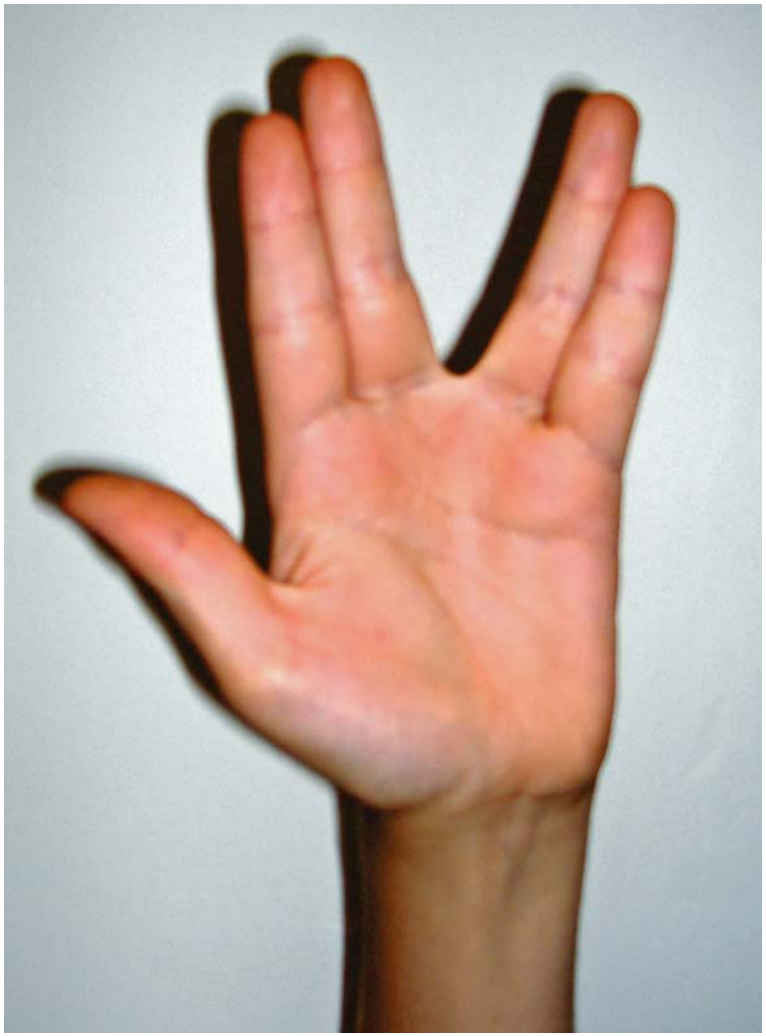
Live Long….



and Prosper!!!

Inside ADEM Technology

Lisa Cole
Natural Resource Section
Chemical Branch
Air Division

Alabama Air & Waste Regulatory Update
Montgomery, Alabama
August 22, 2019

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Applications

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- ADEM is pursuing some applications that will improve the user experience.
  - ADEM Portal
  - Regulatory ePortal (Multi-media Database)
- AEERS (Air Emissions Electronic Reporting System) – Reminders
- ECHO (Enforcement and Compliance History Online) – public service announcement

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ADEM Portal

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- Single Sign On (SSO)
- CROMERR Compliant
- Multi-media access
- Coming next summer

ADEM Regulatory ePortal

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- SSO (ADEM Portal)
- Web-based multi-media compliance assistance tool
- Secure access to your facility's information
  - Documents
  - Permits
  - Inspection Memos
  - Enforcement
- Electronic Submittals
  - Applications
  - Reports

ADEM Regulatory ePortal

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- GIS
  - Site mapping
  - See what's nearby
- Schedules/reminders
  - Reports due
  - Applications due
  - Payments due
- Invoices/Pay
- Staggered implementation across media (multi-year process)

ADEM Regulatory ePortal

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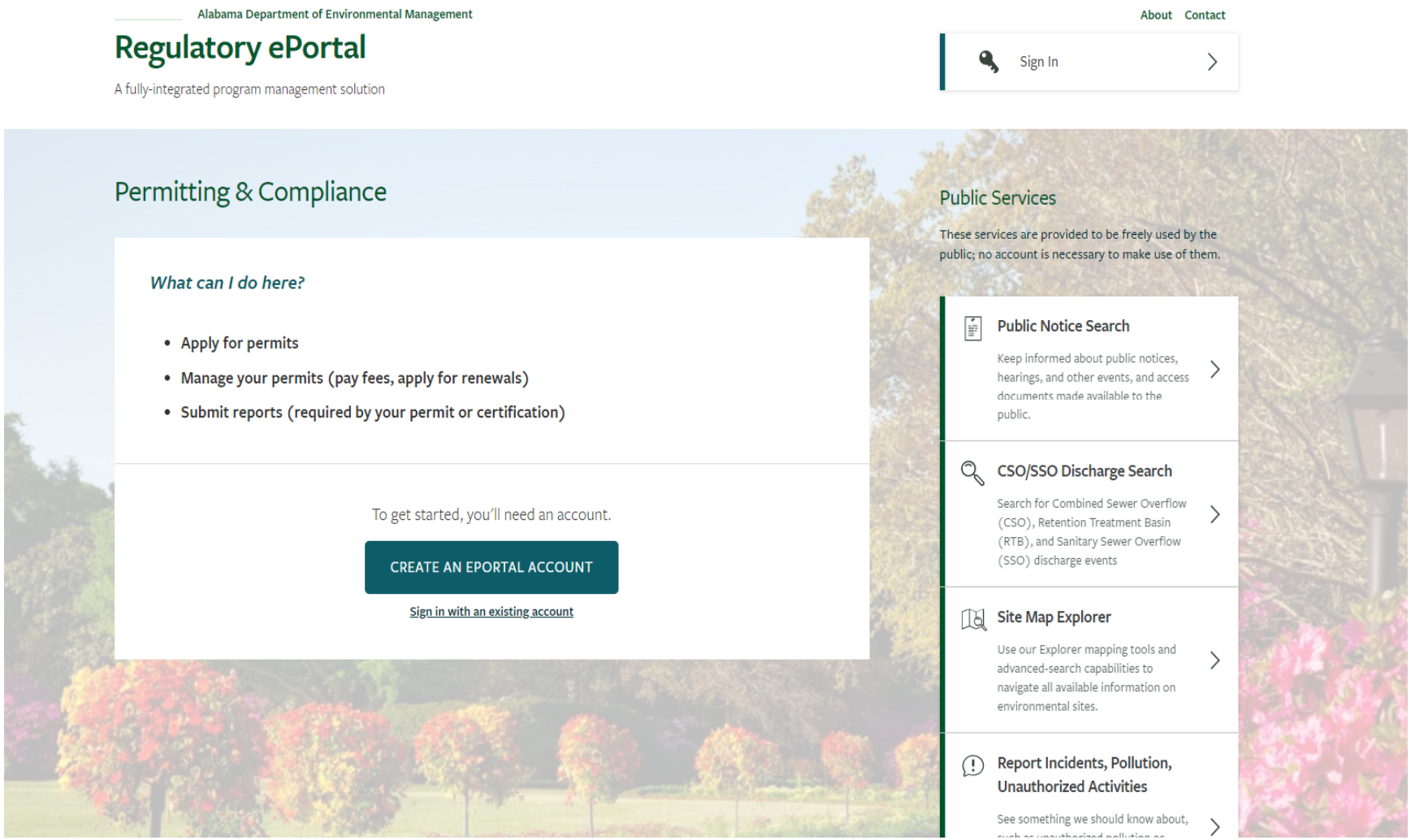

ADEM Regulatory ePortal

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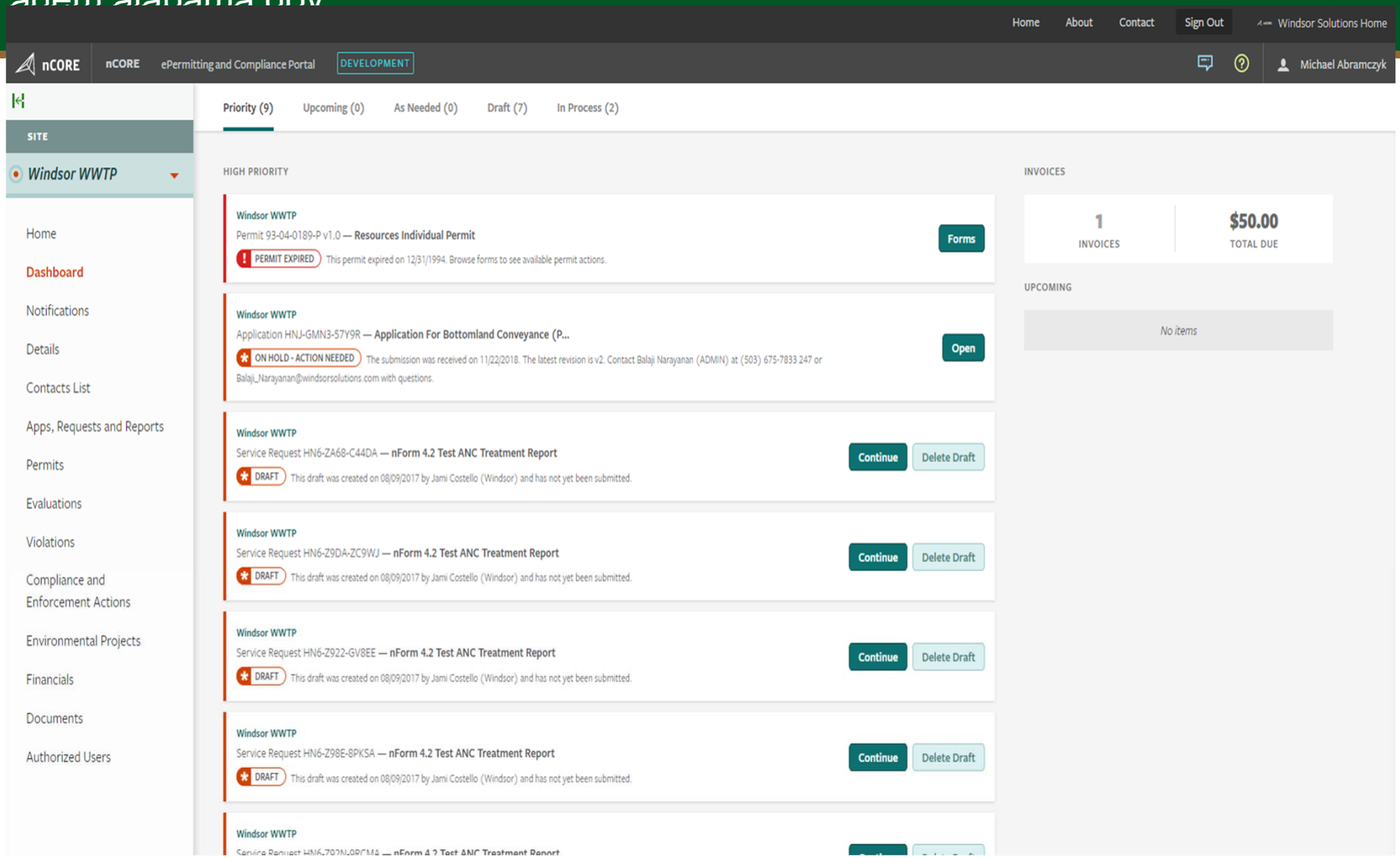

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AEERS

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- Documentation should include emission factors and sample calculations.
- Must address warnings in documentation.
- If report is rejected/resubmitted, entire documentation must be included.
- PM Condensable is a separately reported pollutant (PM-CON).
- Responsible Official is defined in our regulations (335-3-16).

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AEERS

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- Please use the AEERS help desk email for questions/issues – AEERS@adem.alabama.gov
- Don't wait until the last minute!
  - Responsible Officials must identity proof, which may not always be a smooth process.
  - Plan for key folks being out.
- If your email address changes (until ADEM Portal is up and running), you must get a new account.

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ECHO

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- EPA's Enforcement and Compliance History Online (ECHO) – https://echo.epa.gov
- Publicly available information
- Facilities should be aware of their source profile
- Report inaccuracies

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Questions?

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Emerging Contaminants Update

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Emerging Contaminants

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- *Chemicals that have been detected in global drinking water supplies at trace levels and for which the risk to human health is not yet known.*
- Chemicals of Emerging Concern or Already Emerged Contaminants?

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How do we get them?

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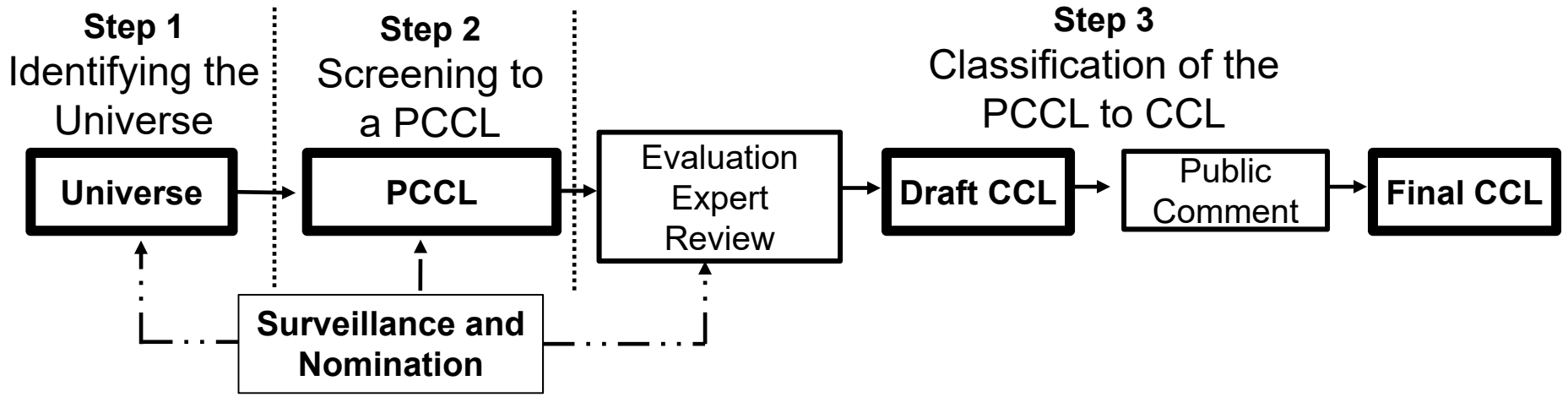
- Safe Drinking Water Act (1996)
  - Contaminant Candidate List
  - Published every 5 years



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SDWA Regulatory Process Flow

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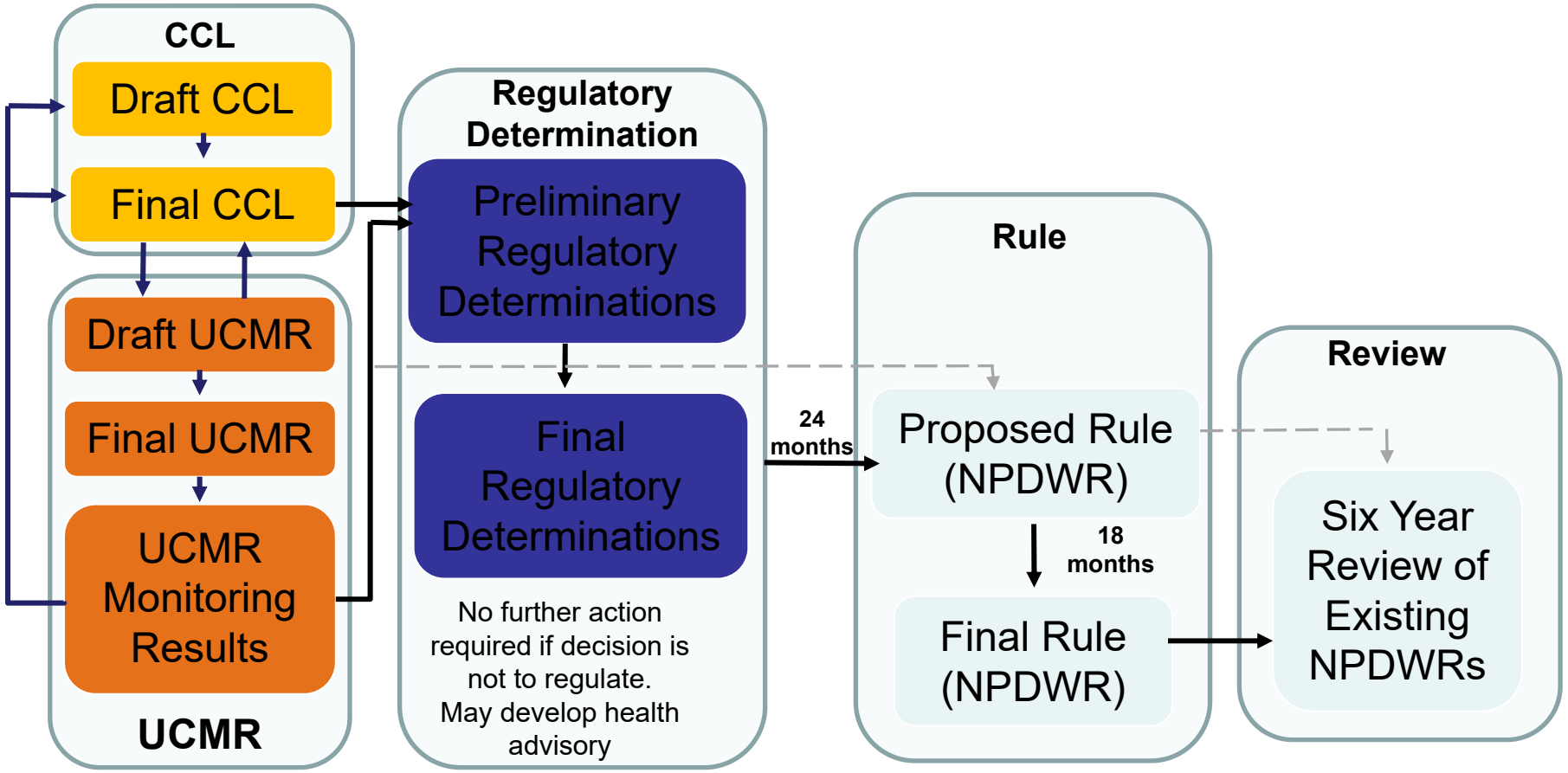

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A few Emerging Contaminants

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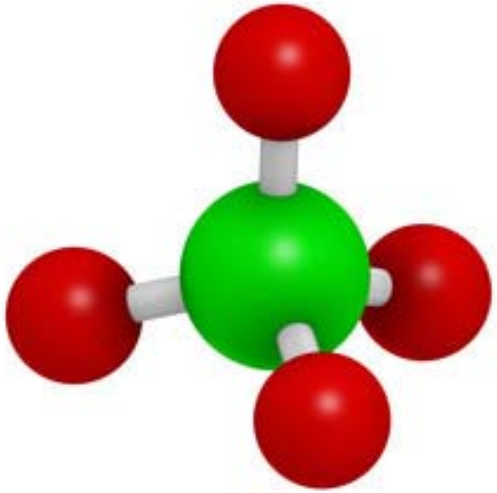
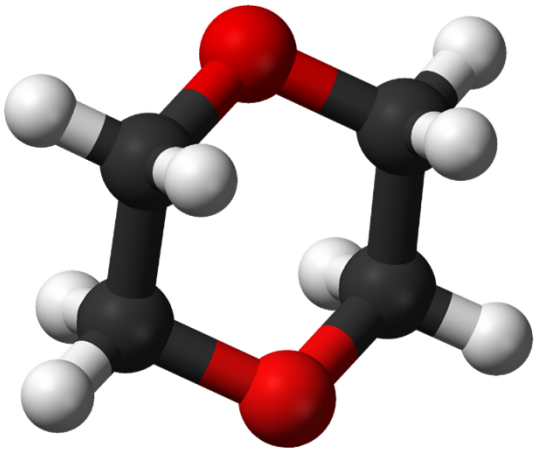
Alabama Chapter

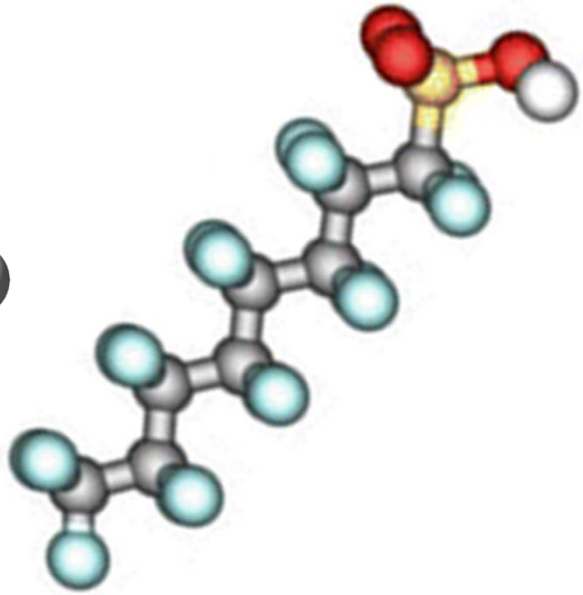
Perchlorate



1,4 Dioxane



PFAS



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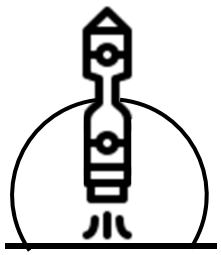
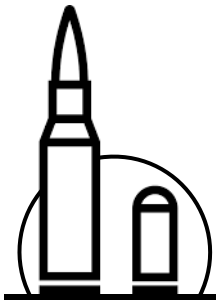
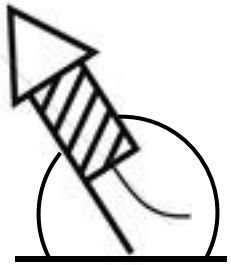
Perchlorate

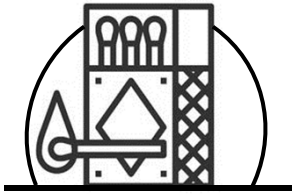
AIR & WASTE MANAGEMENT ASSOCIATION
Alabama Chapter

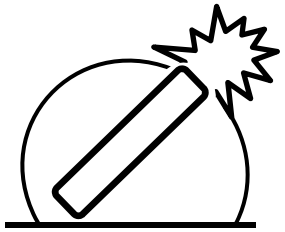
- Uses:


Solid Rocket Fuels


Munitions


Fireworks


Matches


Emergency Flares

Airbag Inflators

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Perchlorate

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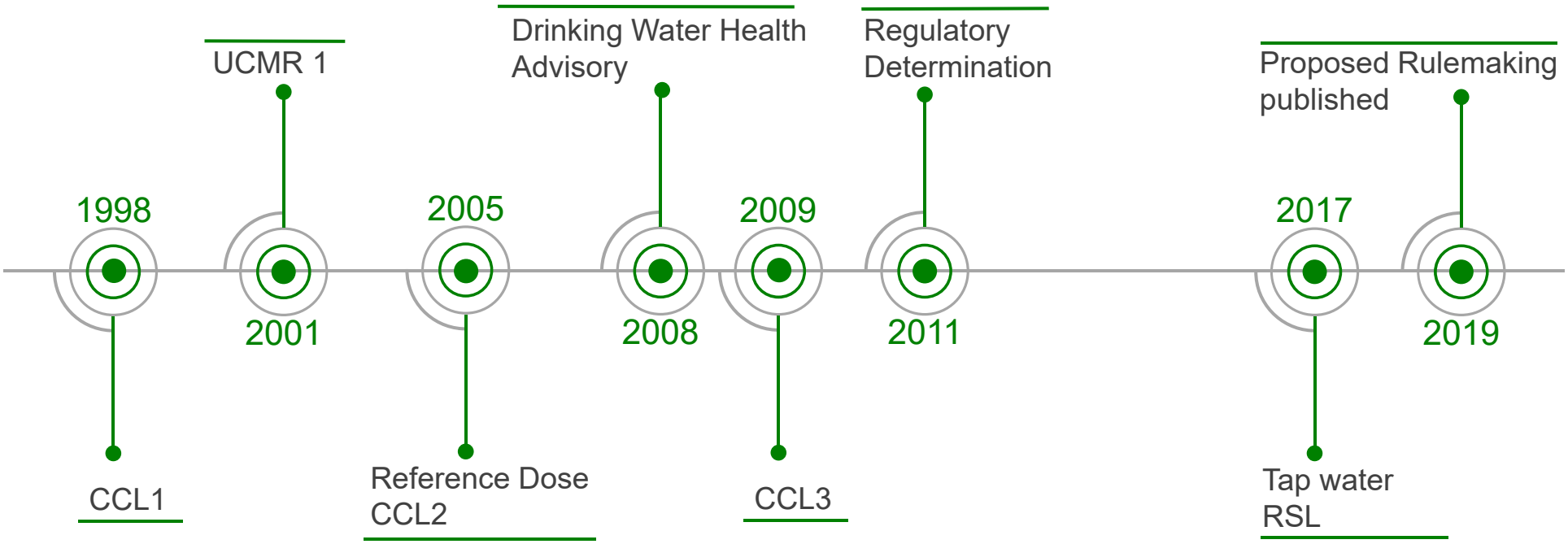

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Perchlorate

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Regulatory Values

- Interim Drinking Water Health Advisory (2008)
  - ❖ 15 µg/L
- Preliminary Remedial Goal (2009)
  - ❖ 14 µg/L
- Proposed MCL (2019)
  - ❖ 56 µg/L

Chemical Properties

- Solubility
  - ❖ 200 (g/L @ 25C)
- Specific Gravity
  - ❖ 1.95 (g/cm3)
- Log K_{oc}
  - ❖ 1.985

Toxicological Impacts

Reference Dose: 0.0007 mg/kg/day

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Perchlorate

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- Site characterization
  - Soluble and Dense
    - Potentially higher concentrations lower in the aquifer
  - Low K_{oc}
    - Doesn't bind easily to soil
    - Potential for larger plumes
- Remediation
  - High Activation Energy and Low volatility
    - Some technologies (Thermal and Chemical) may not be efficient.

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1,4 Dioxane

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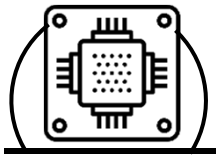
- Uses:

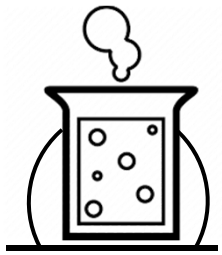
Chlorinated Solvent Stabilizers

Personal Care Products

Anitfreeze and Deicing fluids


Semiconductors

Pharmaceuticals


Laboratory Reagents

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1,4 Dioxane

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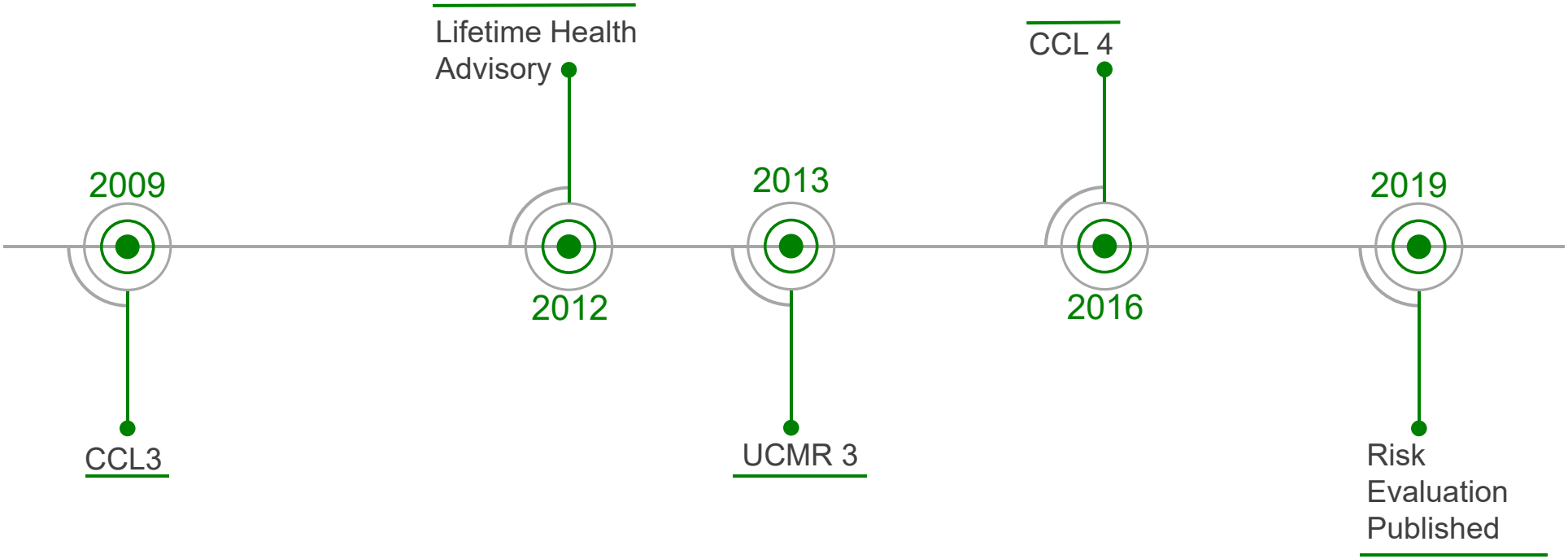

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1,4 Dioxane

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Regulatory Values

- Tap Water RSL (2012)
  - ❖ 0.46 µg/L
- Soil Screening Level (2012)
  - ❖ 5.3 mg/kg
- Residential Air SL (2012)
  - ❖ 2.5 µg/m^3

Chemical Properties

- Solubility
  - ❖ Miscible
- Log K_{oc}
  - ❖ 1.23
- Henry's Law Constant
  - ❖ 4.8×10^{-6}

Toxicological Impacts

Reference Dose: 0.03 mg/kg/day

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1,4 Dioxane

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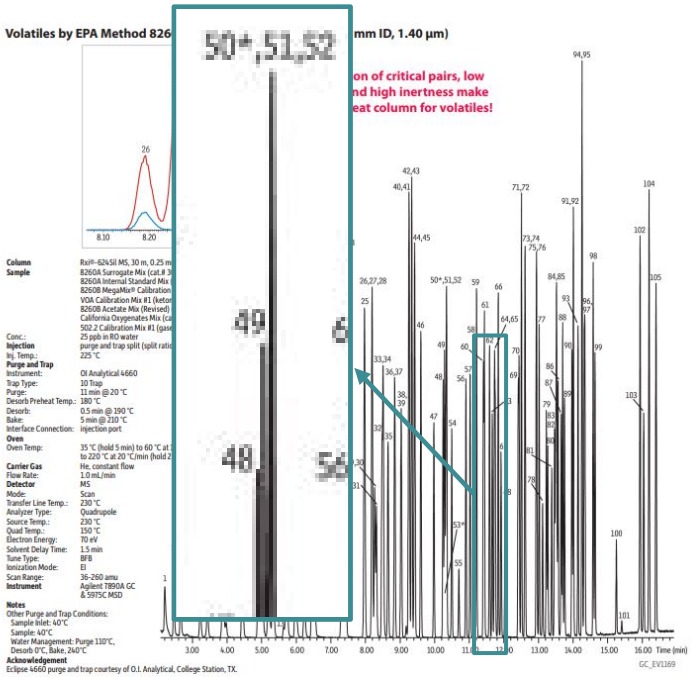
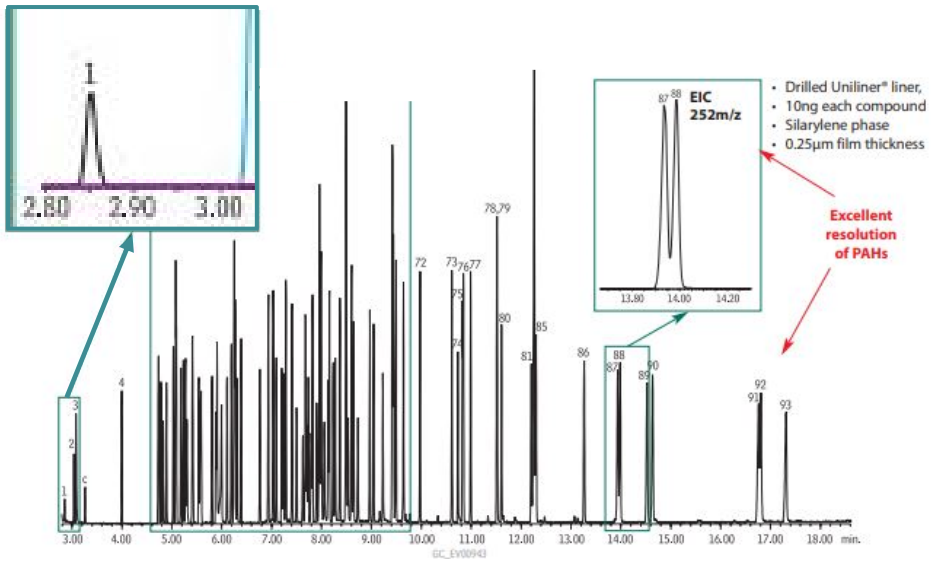
Potential Analytical Concerns



EPA Method 8260



EPA Method 8270

Figures modified from Restek Enviro (restek.com)

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1,4 Dioxane

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Alabama Chapter

- Site characterization
  - Sampling Methodologies
  - Miscible and Low K_{oc}
    - Potential for very large dissolved phase plumes
- Remediation
  - Relatively Low volatility and Adsorptive capacity
    - Some technologies (Air Stripping and GAC) may not be efficient.

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PFAS

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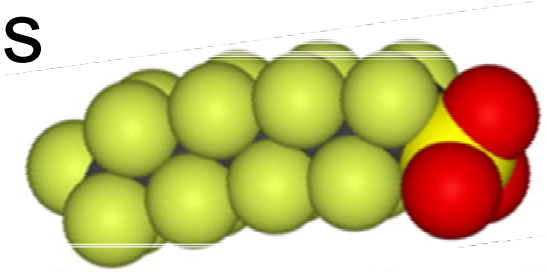
- Per- and Polyfluoroalkyl Substances (PFAS)
- PFAS ≠PFCs



Perfluorooctane sulfonate (PFOS)

Perfluorooctane carboxylate (PFOA)

Modified from ITRC PFAS Fact Sheet

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PFAS

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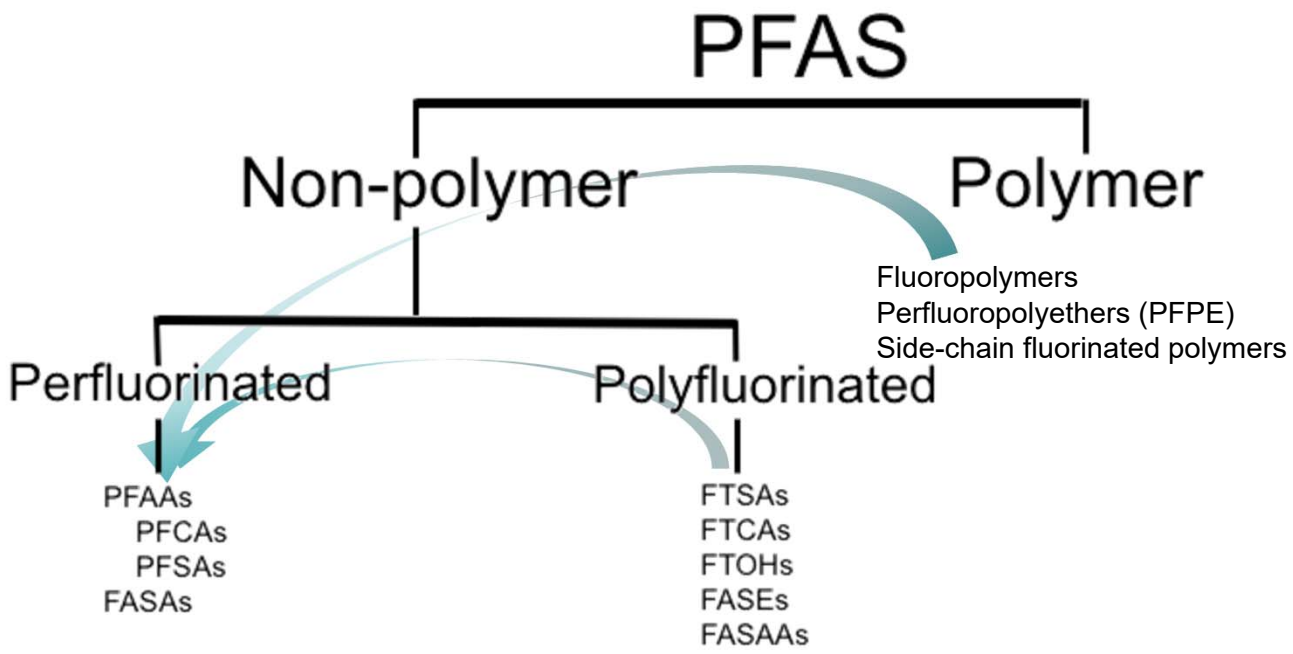
PFAS Family Tree



Modified from ITRC PFAS Fact Sheet

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PFAS

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Naming System

X	Y	Acronym	Name	Formula	CAS No.
B = buta (4 carbon)	A = Carboxylate or carboxylic acid	PFBA	Perfluorobutanoate	$C_3F_7CO_2^-$	45048-62-2
			Perfluorobutanoic acid	C_3F_7COOH	375-22-4
	S = Sulfonate or sulfonic acid	PFBS	Perfluorobutane sulfonate	$C_4F_9SO_3^-$	45187-15-3
			Perfluorobutane sulfonic acid	$C_4F_9SO_3H$	375-73-5
Pe = penta (5 carbon)	A = Carboxylate or carboxylic acid	PFPeA	Perfluoropentanoate	$C_4F_9CO_2^-$	45167-47-3
			Perfluoropentanoic acid	C_4F_9COOH	2706-90-3
	S = Sulfonate or sulfonic acid	PFPeS	Perfluoropentane sulfonate	$C_5F_{11}SO_3^-$	NA
			Perfluoropentane sulfonic acid	$C_5F_{11}SO_3H$	2706-91-4
Hx = hexa (6 carbon)	A = Carboxylate or carboxylic acid	PFHxA	Perfluorohexanoate	$C_5F_{11}CO_2^-$	92612-52-7
			Perfluorohexanoic acid	$C_5F_{11}COOH$	307-24-4
	S = Sulfonate or sulfonic acid	PFHxS	Perfluorohexane sulfonate	$C_6F_{13}SO_3^-$	108427-53-8
			Perfluorohexane sulfonic acid	$C_6F_{13}SO_3H$	355-46-4
Hp = hepta (7 carbon)	A = Carboxylate or carboxylic acid	PFHpA	Perfluoroheptanoate	$C_6F_{13}CO_2^-$	120885-29-2
			Perfluoroheptanoic acid	$C_6F_{13}COOH$	375-85-9
	S = Sulfonate or sulfonic acid	PFHpS	Perfluoroheptane sulfonate	$C_7F_{15}SO_3^-$	NA
			Perfluoroheptane sulfonic acid	$C_7F_{15}SO_3H$	375-92-8
O = octa (8 carbon)	A = Carboxylate or carboxylic acid	PFOA	Perfluorooctanoate	$C_7F_{15}CO_2^-$	45285-51-6
			Perfluorooctanoic acid	$C_7F_{15}COOH$	335-67-1
	S = Sulfonate or sulfonic acid	PFOS	Perfluorooctane sulfonate	$C_8F_{17}SO_3^-$	45298-90-6
			Perfluorooctane sulfonic acid	$C_8F_{17}SO_3H$	1763-23-1
(9 carbon)	S = Sulfonate or sulfonic acid	PFNS	Perfluorononane sulfonate	$C_9F_{19}SO_3^-$	NA
			Perfluorononane sulfonic acid	$C_9F_{19}SO_3H$	474511-07-4
D = deca (10 carbon)	A = Carboxylate or carboxylic acid	PFDA	Perfluorodecanoate	$C_9F_{19}CO_2^-$	73829-36-4
			Perfluorodecanoic acid	$C_9F_{19}COOH$	335-76-2
	S = Sulfonate or sulfonic acid	PFDS	Perfluorodecane sulfonate	$C_{10}F_{21}SO_3^-$	126105-34-8
			Perfluorodecane sulfonic acid	$C_{10}F_21SO_3H$	335-77-3

ITRC PFAS Fact Sheet

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PFAS

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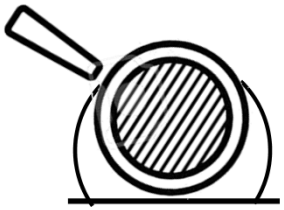
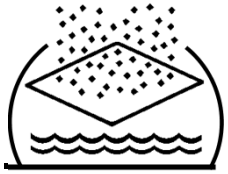
- Uses:



Non-Stick Coatings



Metal Plating Operations

Aqueous Film forming foams

Waterproof Coatings

Food packaging

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PFAS

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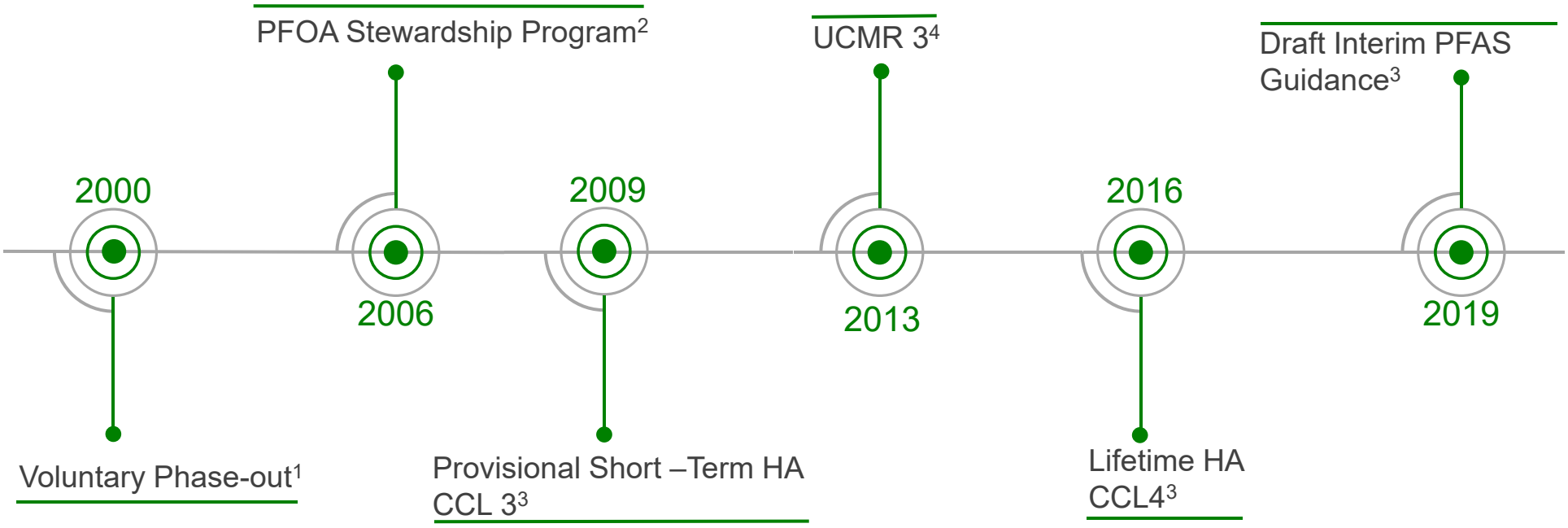

The events shown in the timeline above included a variety of PFAS compounds. The notes below indicate which PFAS compounds were included in each event.

[1] PFOS
[2] PFOS, PFOA, and related compounds
[3] PFOA and PFOS
[4] 8 PFAS compounds

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PFAS

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Regulatory Values
(PFOA and PFOS)

- Provisional Short-term HA (2009)
  - ❖ 200 ng/L (PFOS)
  - ❖ 400 ng/L (PFOA)
- Lifetime HA(2016)
  - ❖ 70 ng/L (PFOA+PFOS)
  - ❖ Replaced the 2009 Short-term HA

Chemical Properties

➢ Not many quantitative chemical properties are known for the anionic forms of PFAS

We do know…

- Hydrophobic and Hydrophilic
- C-F is a very strong chemical bond
- Surfactant

Toxicological Impacts

Reference Dose: 0.00002 mg/kg/day
(PFOA and PFOS)

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PFAS

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- Site characterization
  - Sampling and Analytical Methodologies
  - Multiple Transport Pathways
  - Precursors
- Remediation
  - Granular Activated Carbon and Ion Exchange are the two most promising technologies currently.

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Take Aways

AIR & WASTE MANAGEMENT ASSOCIATION

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- Double check your Sampling methods.
- Ensure Analytical methods are appropriate.
- Traditional Remedies may not work.
- Risk Communication is key.

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Questions?

AIR & WASTE MANAGEMENT ASSOCIATION

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Additional Information:

www.ITRCWEB.ORG

INTERSTATE COUNCIL ITRC TECHNOLOGY REGULATORY

EPA United States Environmental Protection Agency

www.EPA.gov