Alabama Department Of Environmental Management

The Environment: Then verses Now

• What does the Alabama public think?

• What does the data show?
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
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
Air Quality and related standards

- PM2.5
- Ozone
- NO\textsubscript{x}
- SO\textsubscript{2}
- CO
- Pb
- Haze
Revisions to Air Quality Standards and Goals

- PM2.5 – 1971; 1987; 1997; 2006; 2012
- Ozone – 1971; 1979; 1997; 2008; 2015
- $\text{NO}_x$ – 1971; 2010
- $\text{SO}_2$ – 1971; 2010
- CO – 1971
- Pb – 1978; 2008
- Haze – goal for 2018 set in 2008
Statewide Attainment of Air Quality and related standards

- PM2.5 – 2013
- Ozone – 2014
- NO\textsubscript{x} – 1971
- SO\textsubscript{2} – 1977
- CO – 1971
- Pb – 2015
- Haze – 2013
### Number of Drinking Water Contaminants Regulated

<table>
<thead>
<tr>
<th></th>
<th>1982</th>
<th>2018</th>
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<td>Organic chemicals</td>
<td>7</td>
<td>55</td>
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<tr>
<td>Inorganic chemicals</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>Radionuclides</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Microbes</td>
<td>3</td>
<td>8</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>23</strong></td>
<td><strong>89</strong></td>
</tr>
</tbody>
</table>
Alabama Department Of Environmental Management

Percentage of Public Water Systems in Compliance

- 1982: 82%
- 2018: 98%
303(d) Impaired water body / pollutant combinations 1998-2018

<table>
<thead>
<tr>
<th>Category</th>
<th>Listed</th>
<th>Ending</th>
</tr>
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<tbody>
<tr>
<td>River/Stream (miles)</td>
<td>11,913</td>
<td>3,276</td>
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<td>Lake/Reservoir (1000s ac)</td>
<td>546</td>
<td>224</td>
</tr>
<tr>
<td>Ocean/Estuary (1000s ac)</td>
<td>562</td>
<td>463</td>
</tr>
</tbody>
</table>
## Water Designations & Classifications

### 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
LAND DATA
Landfills

• Improved landfills 1989 - 2018:
  – 141 unlined MSW landfills closed
  – 32 state-of-the-art lined MSW landfill permits today
Unauthorized solid waste dumps (UAD)

- 1,880 UADs remediated 2009 – 2018
  - 1,341 UADs remediated by responsible parties
  - 539 UADs innocent landowners held harmless
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
Alabama Department Of
Environmental Management

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
Alabama Department of Environmental Management

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
Overview

- 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
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• Eric Sanderson, Chief – Solid Waste Branch
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Land Division Programs

- **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

Since 1989:

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

• Since program inception, ADEM has reimbursed \textit{\~\$15 million} for Solid Waste Fund clean-up projects

• As of 2018, \textit{\~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
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
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 its utilization.
Isn’t that already regulated?

- Current regulations:
  - State AFO/CAFO Program (335-6)
  - State NPDES Program (335-6)
  - Federal Biosolids Program (Part 503)
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

• 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.
Beneficial Use of By-Product Materials for Land Application

• 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 ??
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ADEM Air Program Overview

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• Organization
  □ Changes

• Regulatory Changes
  □ Affordable Clean Energy Rule
  □ “Once In Always In”
  □ Start Up Shut Down and Malfunction

• Rulemaking Problems
Air Division Organization

- 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
• Doug Carr – Energy Branch
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• Wes Thornhill – Chemical Branch
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• Larry Brown – Planning Branch
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• Don Barron – Special Services Section
  - drb@adem.alabama.gov 334-271-7879
• 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
• 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
• 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
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
• 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
Once In Always In

- 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 ComplyImmediately
- Expect Litigation
• 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.
ADEM’s SSM Rule

- 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.
SSM Rule Status

- Recent Developments
  - Texas Petitioned for Reconsideration and a Stay in 2017
  - 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
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
Rulemaking Problems

• 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
Rulemaking Problems

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

- ADEM
  - Wants Primacy for this Rule and Almost All Other EPA Rules
    - Sometimes don’t take Delegation
  - Adopts Rule Quickly
• Then, EPA Either
  - Partially or Totally Loses Lawsuits Over the Rules
  - Disavows Rule
    - Due to Logic Errors
    - Change in Administration
Rulemaking Problems

- 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
Rulemaking Problems

- Long Term Results
  - ADEM is Reluctant to Adopt New EPA Rules Quickly
Questions
LAND DIVISION RULEMAKING UPDATE

Heather Jones, Chief
Compliance and Enforcement Section
Solid Waste Branch
• 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
Division 5

Uniform Environmental Covenants Program
• 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
• 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
• 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
• 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
Division 14

Airbag Rule
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
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
• 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
• Proposed Cycle Begins: October 2019

• Proposed Public Hearing: December 2019

• Proposed Consideration by EMC: February 2020

• Proposed Effective Date: April/May 2020
Brent Watson, Chief
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Division 15

Brownfield Redevelopment and Voluntary Cleanup Program
• 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
• 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
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Modeling Issues

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

Modeling Issues

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

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Short Term NAAQS Issues

- 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
• 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.

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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

- 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.
Questions

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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
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
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.
• 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
Overview of Regulatory Requirements

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

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

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Part 1 – General Permitting Overview

Part 2 – PSD issues
ADEM has 2 Air Permitting tracks.

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

Or how I learned to stop worrying and love the BACT.
What is PSD?

Prevention of Significant Deterioration
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
Major mods at existing sources

See previous slide
Avoiding Major Mods at Existing Sources
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.
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
How to determine emissions increase?

Baseline to future projected actuals for existing sources.

Baseline to potentials for new sources.
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.
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.
Questions??
Compliance and Enforcement Update

Samantha P. Sims, P.E.
Chief, Industrial Chemicals Section
Chemical Branch
Air Division
Alabama Department of Environmental Management
(334) 271-7856
ssims@adem.alabama.gov
Introduction

• Compliance Determinations
• ADEM’s Enforcement Tools
• Statistics
• Compliance Issues
• Enforcement Reporting
• EPA’s Role
• Inspections 101
• 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
Enforcement Tools

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

• 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
Violations Leading to Enforcement

- 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
• 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
• Failure to minimize emissions
• Failure to conduct required testing
• Open Burning
• Asbestos/Demolition

• Donald Barron, Chief of Special Services Section
  (334) 271-7879   drb@adem.alabama.gov
• 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
EPA’s Role

- 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
• 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
• 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
• 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
Questions?

Samantha P. Sims, P.E.
Chief, Industrial Chemicals Section
Chemical Branch
Air Division
ADEM
(334) 271-7856
ssims@adem.alabama.gov
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

33% 67%

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 and Repair Surveys - Statistics

Methane Reductions

6.83 tons of Methane per year
81.6 Tons
Of Methane Emissions Eliminated in 2019
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
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!
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
LOF Loading Controls Options

Vapor Combustor Unit:
- Easy to maintain
- CO₂ and NOₓ emissions

Vapor Recovery Unit:
- Net emission reduction
- Expensive

Route Vapors to Existing Flare:
- Cheapest Option
- Increases CO₂ emissions from flare
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 its treating capacity
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
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
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.
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.
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


Monthly LDAR inspections and quarterly ASB HAP tests

Routine reporting and periodic stack testing
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 & Processor
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

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Pollutant</th>
<th>Units</th>
<th>Current</th>
<th>Expected</th>
<th>Change</th>
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<tbody>
<tr>
<td>Existing Solid Fuel</td>
<td>HCl</td>
<td>lb/MMBtu</td>
<td>0.022</td>
<td>0.020</td>
<td>-9.1%</td>
</tr>
<tr>
<td>Existing Solid Fuel</td>
<td>Hg</td>
<td>lb/MMBtu</td>
<td>5.7E-06</td>
<td>5.40E-06</td>
<td>-5.3%</td>
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<tr>
<td>Existing Wet Biomass Stokers</td>
<td>CO</td>
<td>ppm @3% O2</td>
<td>1,500</td>
<td>1,020</td>
<td>-32.0%</td>
</tr>
<tr>
<td>Existing Wet Biomass Stokers</td>
<td>PM</td>
<td>lb/MMBtu</td>
<td>0.037</td>
<td>0.034</td>
<td>-8.1%</td>
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<tr>
<td>Existing Biomass Fluidized Bed</td>
<td>CO</td>
<td>ppm @3% O2</td>
<td>470</td>
<td>210</td>
<td>-55.3%</td>
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<tr>
<td>Existing Biomass Fluidized Bed</td>
<td>PM</td>
<td>lb/MMBtu</td>
<td>0.11</td>
<td>0.021</td>
<td>-80.9%</td>
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<tr>
<td>Existing Liquid Fuel</td>
<td>HCl</td>
<td>lb/MMBtu</td>
<td>1.10E-03</td>
<td>3.5E-04</td>
<td>-68.2%</td>
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<td>Existing Liquid Fuel</td>
<td>Hg</td>
<td>lb/MMBtu</td>
<td>2.0E-06</td>
<td>0.7E-06</td>
<td>-65.0%</td>
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<td>Existing Heavy Liquid Fuel</td>
<td>PM</td>
<td>lb/MMBtu</td>
<td>6.2E-02</td>
<td>?</td>
<td>?</td>
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<tr>
<td>New Solid Fuel</td>
<td>HCl</td>
<td>lb/MMBtu</td>
<td>0.022</td>
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<td>New Solid Fuel</td>
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<td>ppm @3% O2</td>
<td>230</td>
<td>210</td>
<td>-8.7%</td>
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<td>PM</td>
<td>lb/MMBtu</td>
<td>0.0098</td>
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<td>0%</td>
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</table>
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. H₂SO₄ 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.
Diesel Emissions Reduction Act (DERA)

Dale Hurst

Air Division
Alabama Department of Environmental Management

August 22, 2019
Diesel Emissions Reduction Act (DERA)

- 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
• 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
2019 – 2020
DERA Program

• 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
DERA Eligible Projects

- 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)
DERA Eligible Projects

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

Comprehensive UST Application for Reporting Data
Welcome to CUSTARD

Owners of UST facilities please select the “Owners” option to enter your email address. This email address will be associated with your account number and will be used for future invoicing purposes.

Operators, site contacts, or lessees please select the “Site Contacts” option to enter your email address. This email address will be associated with the Site ID Number for this facility.
What’s New with CUSTARD

- 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
Owner Email Address Management

To ensure the correct account please enter in only your account number.

After entering the account number, click “show” and verify that the information on the screen is correct. If the information is correct, you may proceed to enter your email address. This email address will be used to contact you about testing requirements, invoicing, and other matters regarding the USTs you own.

Enter the Owner Account number: [blank] Show
Site Email Address Management

To ensure the correct account please enter in your Site ID number in the format of Account Number - County ID - Site ID, (00000-000-00000).

After entering the Site ID number, click “show” and verify that the information on the screen is correct. If the information is correct, you may proceed to enter your email address. This email address will be used to contact you about testing requirements, invoicing, and other matters regarding the UST's you own.

Enter the Site ID number:  

Show
Why should I register my email?

- 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
Subject: Line Tightness Test Reminder

adem.alabama.gov

According to our records, you are the owner/operator of one or more underground storage tanks located at 363 EULA LINK & SOUTHLAND TRAIL, AL 36004 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: 334-270-5651
Subject: Cathodic Protection Test Reminder

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
"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:


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 in your mailbox. One book will be sent to each registered tank owner."
What is a Facility Report?

- A detailed site summary
- A site testing schedule to include 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
### General Information

<table>
<thead>
<tr>
<th>Owner Name</th>
<th>Owner Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAB DEPT. HEALTH &amp; SAFETY</td>
<td>933 19TH STREET SO., SUITE 445 BIRMINGHAM, AL 35294</td>
</tr>
<tr>
<td>Site Name</td>
<td>Site Address</td>
</tr>
<tr>
<td>WOMENS AND INFANTS CENTER</td>
<td>1700 6TH AVENUE SOUTH BIRMINGHAM, AL 35233</td>
</tr>
<tr>
<td>Number of tanks at site: 2</td>
<td>Last Inspection Date:</td>
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</tbody>
</table>

### Facility Testing Schedule

<table>
<thead>
<tr>
<th>Test or Inspection</th>
<th>Last Test Date (YYYY/MM/DD)</th>
<th>Next Test Date (YYYY/MM/DD)</th>
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</thead>
<tbody>
<tr>
<td>General Testing</td>
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<tr>
<td>Annual WalkThrough Inspection</td>
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<tr>
<td>Overfill Device Inspection</td>
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<tr>
<td>Spill Bucket Test</td>
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<tr>
<td>Cathodic Protection Testing: Impressed Current CP</td>
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<tr>
<td>Leak Detection Testing</td>
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<td></td>
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<tr>
<td>ATG Probe/Sensor Testing</td>
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<td></td>
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<tr>
<td>Annual Line Tightness Testing</td>
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<tr>
<td>SIR Annual Report Summary</td>
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<tr>
<td>Containment Sump Integrity Test</td>
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<tr>
<td>Tank Information</td>
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<tr>
<td><strong>Tank Number:</strong> 1 of 2, Unique Tank #52700</td>
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<td></td>
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<tr>
<td><strong>Status of Tank: Currently In use</strong></td>
<td></td>
<td></td>
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<tr>
<td>Tank Install Date: 2010-01-01</td>
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<td></td>
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<tr>
<td>Number of tanks if Manifolded: 0</td>
<td>Number of Compartments: 1</td>
<td>Estimated Total Capacity(gal): 15000</td>
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<tr>
<td><strong>Product stored is:</strong> Diesel</td>
<td></td>
<td></td>
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<tr>
<td>Tank Usage: Emergency Power Generator</td>
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<td></td>
</tr>
<tr>
<td>Tank Construction Material: Double Wall, Fiberglass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe Construction Material: Double Wall, Fiberglass Plastic</td>
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<td>Tank Method of Overfill Protection: High Level Alarm</td>
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<tr>
<td>Tank Method of Release Detection: Interstitial Monitoring w/ Secondary Containment</td>
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<td>Type of IM Method:</td>
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<td>Piping Type: Pressure</td>
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<td>Pressurized Piping Method of Release Detection, Group I: Sump Sensor w/ relay to shutoff pun</td>
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<td>Pressurized Piping Method of Release Detection, Group II: Interstitial Monitoring w/ Secondary Containment</td>
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<td>Type of IM:</td>
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| 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 |
• 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.
• 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.
## UST Incident Summary

**UST/AST Release Incident Number:** UST110611

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<td><strong>UST/AST Release Incident Number:</strong></td>
<td>Facility I.D. Number</td>
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<td>UST110611</td>
<td>12530-101-821</td>
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<tr>
<td><strong>Site Name:</strong></td>
<td><strong>Site Address:</strong></td>
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<tr>
<td>ATLANTA HWY FOOD MART</td>
<td>5440 ATLANTA HWY MONTGOMERY, AL</td>
</tr>
<tr>
<td><strong>Owner Name:</strong></td>
<td><strong>Owner Address:</strong></td>
</tr>
<tr>
<td>INTERSTATE OIL CO INC</td>
<td>2335 SOUTH FORBES DRIVE MONTGOMERY, AL 36110</td>
</tr>
<tr>
<td><strong>Owner Contact Name:</strong></td>
<td></td>
</tr>
<tr>
<td>RICK NORTON EXT 113</td>
<td></td>
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<tr>
<th>Release Incident Status</th>
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<td><strong>Status of Investigation/Cleanup:</strong></td>
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<tr>
<td><strong>ADEM Project Manager Name:</strong></td>
<td></td>
</tr>
<tr>
<td>Jeff Aul</td>
<td></td>
</tr>
<tr>
<td><strong>ADEM Project Manager Phone Number:</strong></td>
<td>(334) 274-4206</td>
</tr>
<tr>
<td><strong>ADEM Project Manager Email:</strong></td>
<td><a href="mailto:jaul@adem.alabama.gov">jaul@adem.alabama.gov</a></td>
</tr>
</tbody>
</table>
**UST Incident Summary (NFA)**

**UST/AST RELEASE INCIDENT NUMBER: UST940402**

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<td><strong>Facility I.D. Number:</strong></td>
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<td>UST940402</td>
<td>17003-101-14936</td>
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<tr>
<td><strong>Site Name:</strong></td>
<td><strong>Site Address:</strong></td>
</tr>
<tr>
<td>SUPER-LUBE #601</td>
<td>5306 ATLANTA HWY MONTGOMERY, AL</td>
</tr>
<tr>
<td><strong>Owner Name:</strong></td>
<td><strong>Owner Address:</strong></td>
</tr>
<tr>
<td>SUPER LUBE 10 MINUTE OIL CHANGE INC</td>
<td>401 E VIRGINIA ST TALLAHASSEE, FL 32301</td>
</tr>
<tr>
<td><strong>Owner Contact Name:</strong></td>
<td></td>
</tr>
<tr>
<td>DOUGLAS BEHRMAN</td>
<td></td>
</tr>
<tr>
<td><strong>Release Incident Status:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>NOV/NOR Issuance Date:</strong></td>
<td>1994-04-01</td>
</tr>
<tr>
<td><strong>Status of Investigation/Cleanup:</strong></td>
<td>NFA</td>
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</table>

**ADEM Contact Information**

Contact Groundwater Branch: (334) 270-5655
More to come…
Partnership with Windsor

- 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
Benefits of nVIRO

- 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
Any Questions?

Latoya Hall
334-271-7759
lahall@adem.alabama.gov
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
“To Boldly Go Where No One has Gone Before!”

Captain James T. Kirk, starship Enterprise
Objectives

- 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
Personal Air Monitoring/Sensors

TZOA

LAPKA

Airbeam
Purple Air Monitor
Map/Info

US EPA PM2.5 AQI

On August 18th, 2019, 12:34:45 PM CDT
Real time US EPA PM2.5 AQI is now 42
0-50: Air quality is considered satisfactory, and air pollution poses little or no risk.

Sensor: Main Office

Map Data Layer Conversion
US EPA PM2.5 AQI

AEM Alabama Energy Management
adem.alabama.gov
Main Office (Purple Air) vs Montgomery (ADEM) PM2.5
July 18 - August 10, 2019
*Note missing data throughout data set
• 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
Pros & Cons

• Pros
  - Employee Safety
  - Efficiency with Quick Feedback

• Cons
  - Cost ($70k-$100k), +Insurance, +Training
  - Employee Responsibility
Unmanned Aircraft Systems (UAS)

“Prosumer” Quadcopter
DJI Phantom 4

Advanced Visible-light Imagery
20-100mp cameras
Zoom lenses
Unmanned Aircraft Systems (UAS)

Thermal Imagery
Unmanned Aircraft Systems (UAS)

Optical Gas Imaging
Air Monitoring
Unmanned Aircraft Systems (UAS)

Air Sampling
Unmanned Aircraft Systems (UAS)

Water Sampling
Unmanned Aircraft Systems (UAS)

LIDAR – Light Imaging Detection and Ranging
Unmanned Aircraft Systems (UAS)

Ground Penetrating Radar
Intrinsically Safe
UAS Data Utilization (2D)
**UAS Pros/Cons**

- **Pros**
  - Very Informative
  - Employee Safety

- **Cons**
  - New Program Development
  - Cost
  - Training
Questions?

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
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
ADEM Portal

- Single Sign On (SSO)
- CROMERR Compliant
- Multi-media access
- Coming next summer
• 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
• GIS
  □ Site mapping
  □ See what’s nearby
• Schedules/reminders
  □ Reports due
  □ Applications due
  □ Payments due
• Invoices/Pay
• Staggered implementation across media (multi-year process)
Regulatory ePortal
A fully-integrated program management solution

Permitting & Compliance

What can I do here?

- Apply for permits
- Manage your permits (pay fees, apply for renewals)
- Submit reports (required by your permit or certification)

To get started, you'll need an account.

CREATE AN EPORTAL ACCOUNT

Public Services

These services are provided to be freely used by the public; no account is necessary to make use of them.

Public Notice Search
Keep informed about public notices, hearings, and other events, and access documents made available to the public.

CSO/SSO Discharge Search
Search for Combined Sewer Overflow (CSO), Retention Treatment Basin (RTB), and Sanitary Sewer Overflow (SSO) discharge events

Site Map Explorer
Use our Explorer mapping tools and advanced search capabilities to navigate all available information on environmental sites.

Report Incidents, Pollution, Unauthorized Activities
See something we should know about, such as unauthorized pollution or...
• 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).
• 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.
ECHO

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

- 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?
How do we get them?

- Safe Drinking Water Act (1996)
  - Contaminant Candidate List
  - Published every 5 years
No further action required if decision is not to regulate.

May develop health advisory

Proposed Rule (NPDWR)

Final Rule (NPDWR)

Six Year Review of Existing NPDWRs
A few Emerging Contaminants

Perchlorate  1,4 Dioxane  PFAS
Perchlorate

- Uses:
  - Solid Rocket Fuels
  - Munitions
  - Fireworks
  - Matches
  - Emergency Flares
  - Airbag Inflators
Perchlorate

- UCMR 1: 1998
- Drinking Water Health Advisory: 2005
- Reference Dose: 2008
- CCL1: 2001
- CCL2: 2008
- CCL3: 2009
- Regulatory Determination: 2011
- Tap water RSL: 2017
- Proposed Rulemaking published: 2019

Adem.alabama.gov
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 Koc
  - 1.985

Toxicological Impacts

Reference Dose: 0.0007 mg/kg/day
• 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.
1,4 Dioxane

- Uses:
  - Chlorinated Solvent Stabilizers
  - Personal Care Products
  - Antifreeze and Deicing fluids
  - Semiconductors
  - Pharmaceuticals
  - Laboratory Reagents
1,4 Dioxane

- 2009: CCL3
- 2012: Lifetime Health Advisory
- 2013: UCMR 3
- 2016: CCL 4
- 2019: Risk Evaluation Published

adem.alabama.gov
1,4 Dioxane

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/m³

Chemical Properties

- Solubility
  - Miscible
- Log K_{oc}
  - 1.23
- Henry’s Law Constant
  - $4.8 \times 10^{-6}$

Toxicological Impacts

Reference Dose: 0.03 mg/kg/day
1,4 Dioxane

Potential Analytical Concerns

EPA Method 8260

EPA Method 8270

Figures modified from Restek Enviro (restek.com)
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.

$1,4$ Dioxane
• Per- and Polyfluoroalkyl Substances (PFAS)
• PFAS ≠ PFCs
PFAS Family Tree

PFAS

Non-polymer

Polymer

Perfluorinated

Polyfluorinated

Fluoropolymers
Perfluoropolyethers (PFPE)
Side-chain fluorinated polymers

PFAAs
PFCAs
PFSAs
FASAs

FTSAAs
FTCAs
FTOHs
FASEs
FASAAAs

Modified from ITRC PFAS Fact Sheet
## Naming System

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<tr>
<th>X</th>
<th>Y</th>
<th>Acronym</th>
<th>Name</th>
<th>Formula</th>
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<td>B = buta (4 carbon)</td>
<td>A = Carboxylate or carboxylic acid</td>
<td>PFBA</td>
<td>Perfluorobutanoate</td>
<td>C&lt;sub&gt;4&lt;/sub&gt;F&lt;sub&gt;9&lt;/sub&gt;CO&lt;sup&gt;-&lt;/sup&gt;</td>
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<td>Perfluorobutanoic acid</td>
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<td>S = Sulfonate or sulfonic acid</td>
<td>PFBS</td>
<td>Perfluorobutane sulfonate</td>
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<td>Perfluoropentanoate</td>
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<td>Hx = hexa (6 carbon)</td>
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<td>Perfluoroheptanoate</td>
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<td></td>
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<td>375-92-8</td>
</tr>
</tbody>
</table>

| O = octa (8 carbon) | A = Carboxylate or carboxylic acid | PFOA    | Perfluorooctanoate         | C<sub>8</sub>F<sub>15</sub>CO<sup>-</sup> | 45285-51-6 |
|                    |                                  |         | Perfluorooctanoic acid    | C<sub>8</sub>F<sub>15</sub>COOH | 335-67-1  |
|                    | S = Sulfonate or sulfonic acid   | PFOS    | Perfluorooctane sulfonate | C<sub>8</sub>F<sub>15</sub>SO<sup>-</sup> | 45298-90-6 |
|                    |                                  |         | Perfluorooctane sulfonic acid | C<sub>8</sub>F<sub>15</sub>SOH | 1763-23-1 |

| (9 carbon) | S = Sulfonate or sulfonic acid | PFNS    | Perfluorononane sulfonate | C<sub>9</sub>F<sub>17</sub>SO<sup>-</sup> | NA        |
|           |                                  |         | Perfluorononane sulfonic acid | C<sub>9</sub>F<sub>17</sub>SOH | 474511-07-4 |
| D = deca (10 carbon) | A = Carboxylate or carboxylic acid | PFDA    | Perfluorodecanoate        | C<sub>10</sub>F<sub>21</sub>CO<sup>-</sup> | 73829-36-4 |
|            |                                  |         | Perfluorodecanoic acid    | C<sub>10</sub>F<sub>21</sub>COOH | 335-76-2  |
|            | S = Sulfonate or sulfonic acid  | PFDS    | Perfluorodecane sulfonate | C<sub>10</sub>F<sub>21</sub>SO<sup>-</sup> | 126105-34-8 |
|            |                                  |         | Perfluorodecane sulfonic acid | C<sub>10</sub>F<sub>21</sub>SOH | 335-77-3  |

ITRC PFAS Fact Sheet
• Uses:

- Non-Stick Coatings
- Metal Plating Operations
- Aqueous Film forming foams
- Waterproof Coatings
- Food packaging
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
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)
• Site characterization
  □ Sampling and Analytical Methodologies
  □ Multiple Transport Pathways
  □ Precursors

• Remediation
  □ Granular Activated Carbon and Ion Exchange are the two most promising technologies currently.
Take Aways

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

Daniel Arthur
Governmental Hazardous Waste Branch
Daniel.Arthur@adem.alabama.gov

Additional Information:

www.ITRCWEB.ORG

www.EPA.gov