



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

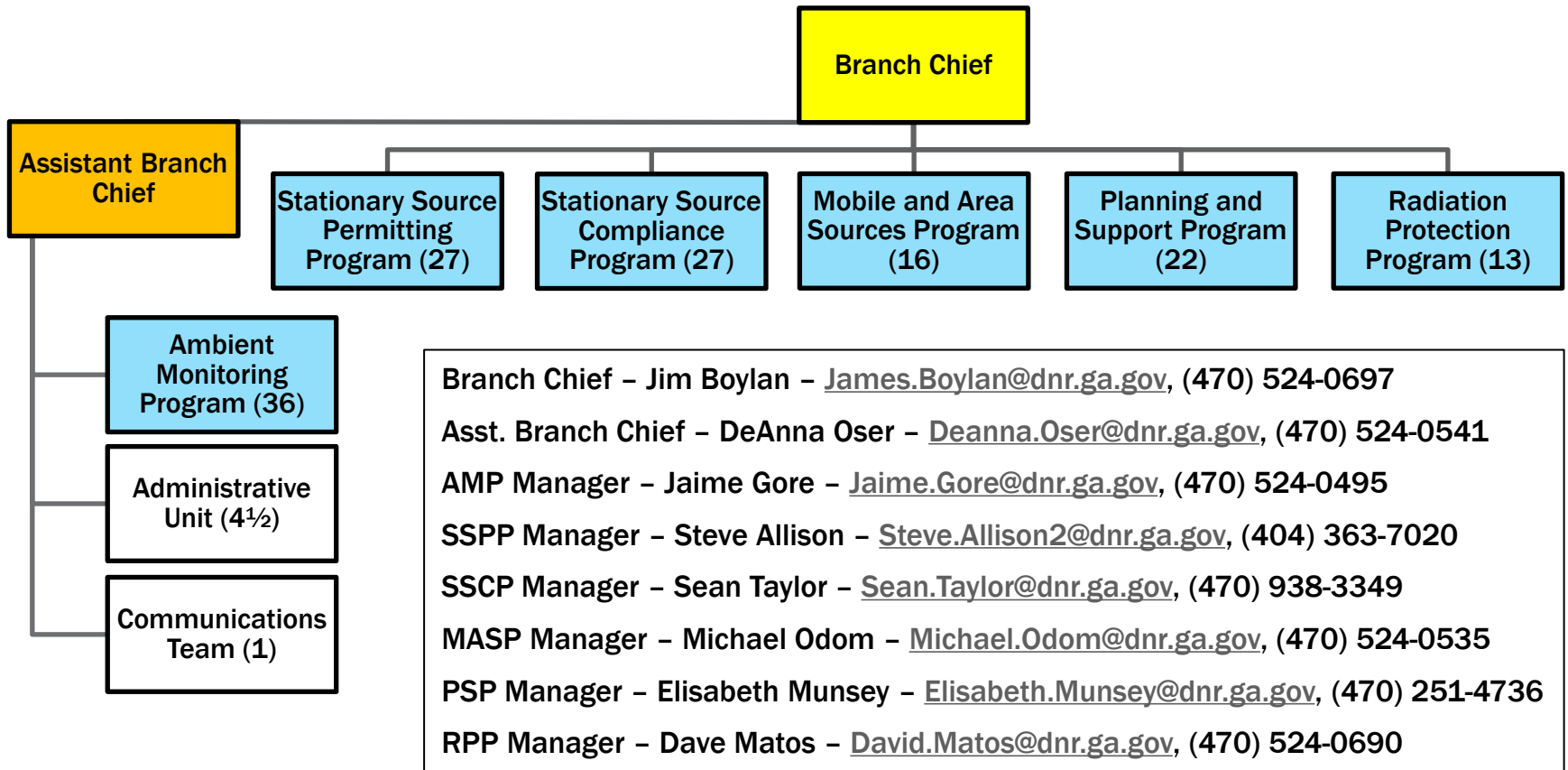
GA EPD Air Protection Branch Updates

James Boylan
Chief, Air Protection Branch

GIEC Annual Meeting
Atlanta, GA
December 6, 2023



APB ORGANIZATION

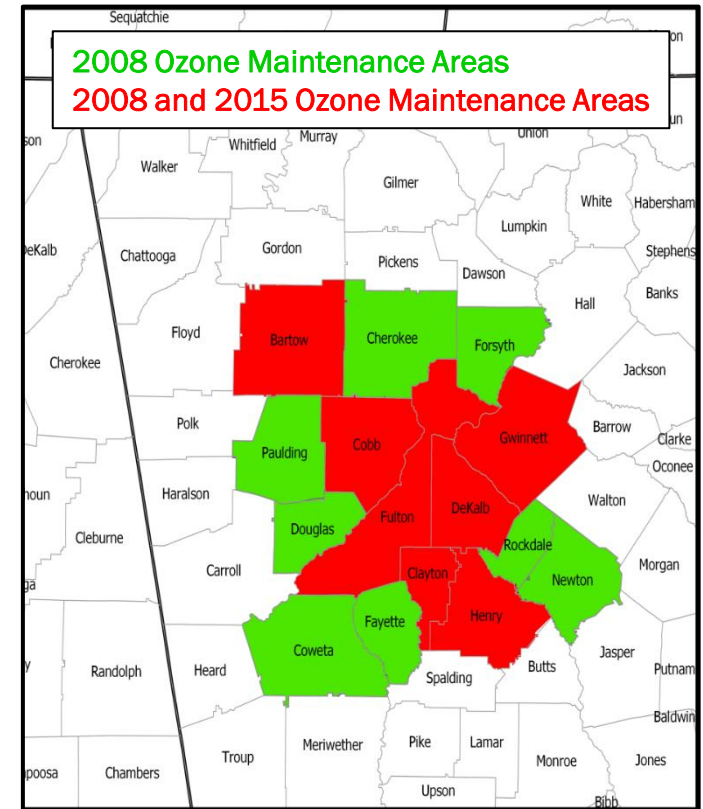




OZONE ATTAINMENT IN ATLANTA

Year	Averaging Time	Level (ppm)	Number of Counties	Attainment Date
1979	1-hour	0.12	13	June 14, 2005
1997	8-hour	0.08	20	January 2, 2014
2008	8-hour	0.075	15	June 2, 2017
2015	8-hour	0.070	7	November 16, 2022

Georgia is designated attainment for all other health-based standards (SO₂, NO₂, PM, CO, and Pb), making this the first time Georgia has been designated attainment for all pollutants in all counties of the state.





HOW DID WE DO IT?

■ Regulatory Controls

- Georgia Multipollutant rule – control NO_x emissions from coal-fired power plants (SCRs, covert to gas, or retire).
- I&M Program – includes gasoline passenger vehicles in 13 counties.
- Federal Tier 3 motor vehicle emission controls and fuel standards.
- Summer burn ban – includes burning leaves, land clearing burns, and prescribed fires.
- Reasonably Available Control Technology (RACT) controls on existing sources.
- Lowest Achievable Emissions Rate (LAER) controls and NO_x/VOC offsets on major new sources.

■ Non-Regulatory Controls

- Partnership with Georgia Commute Options to encourage telework and carpooling.
- Vehicle fleet turnover – replace old dirty vehicles with new clean vehicles (including EVs).
- Federal Congestion Mitigation & Air Quality (CMAQ) grant to replace 50 old dirty yard locomotives with new clean yard locomotives.
- Federal Diesel Emissions Reduction Act (DERA) grants to replace 3,500 old dirty diesel school buses with new clean school buses.
- Volkswagen settlement funds used to replace old dirty diesel transit buses with new clean transit buses.
- Since COVID, the number of people working from home has increased which reduces on-road vehicle traffic. Also, the number of people flying has decreased at Hartsfield-Jackson Atlanta Airport.



REMOVAL OF NONATTAINMENT NSR

- On June 19, 2023 nonattainment requirements for the Atlanta area were removed from the Georgia Rules.
- **Nonattainment NSR Permitting**
 - The NSR major source threshold changed from 100 tpy to 250 tpy (same as the rest of the state).
 - LAER for NO_x and VOCs is no longer required.
 - Emission Reduction Credits (ERCs) for NO_x and VOCs are no longer required to “offset” emission increases.
- **Emission Statements**
 - Annual emission statements for sources of NO_x and VOC emissions (> 25 tpy) are no longer required.



PERMITTING PROGRAM

■ Permit Engineers

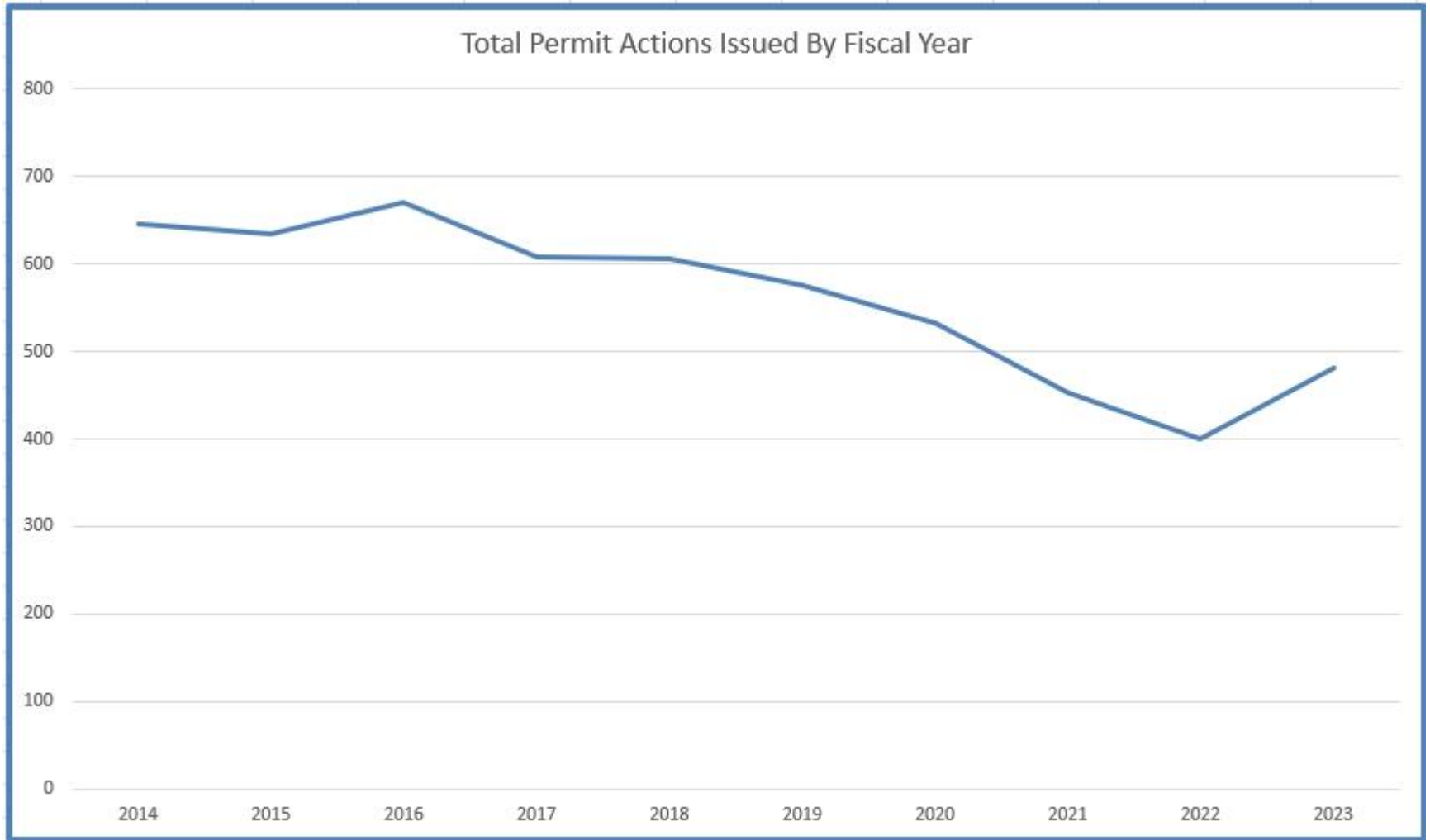
- Chemical – Manager + 6 EEs
- Minerals – Manager + 5 EEs + 1 vacant
- NOx – Manager + 5 EEs
- VOC – Manager + 5 EEs

■ Permit Applications

- Currently, we have 241 permit applications under review
 - 22 expedited permits
 - 108 Title V renewals
- **GOAL → 200 permit applications under review**

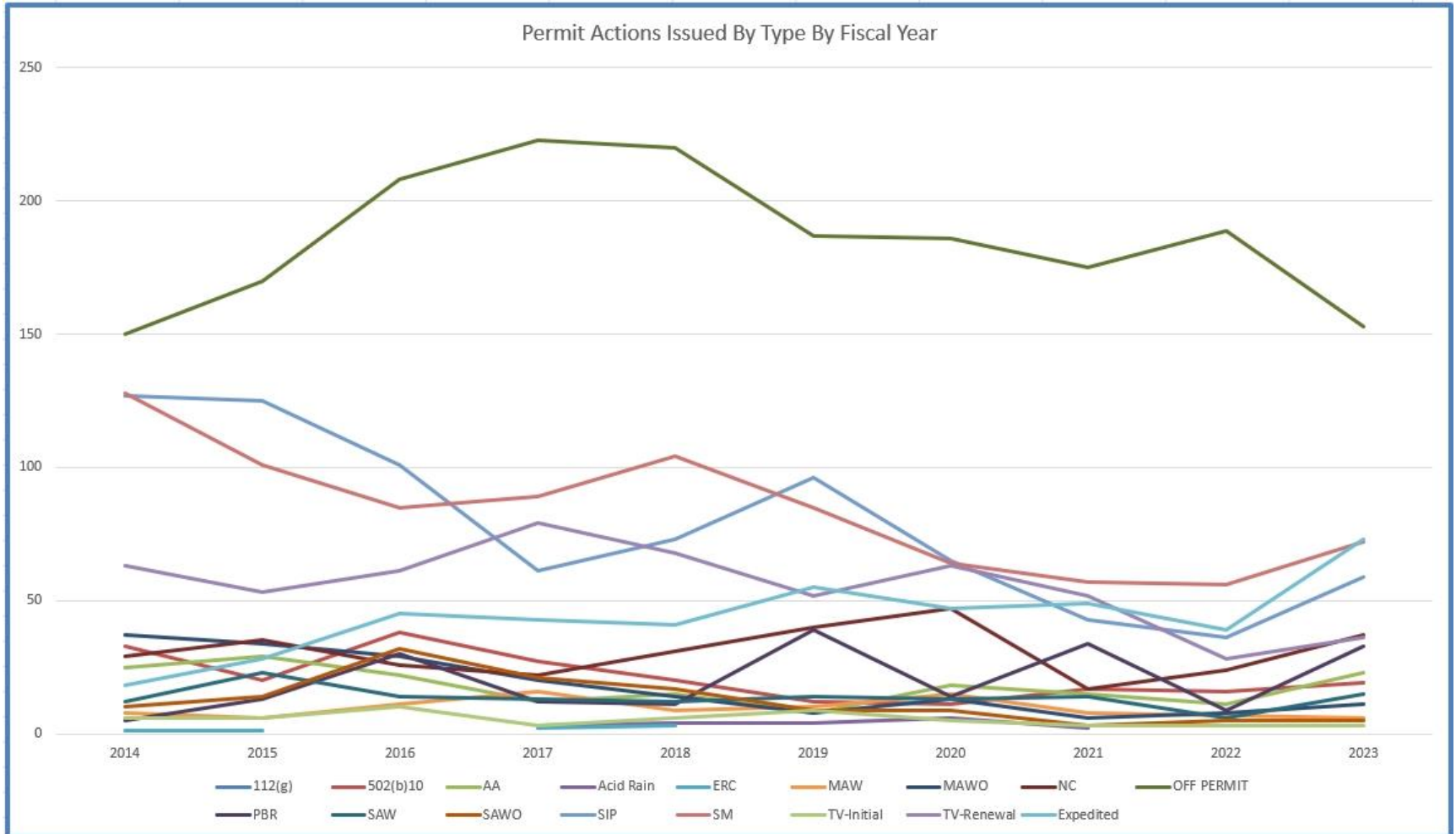


TOTAL PERMIT ACTIONS





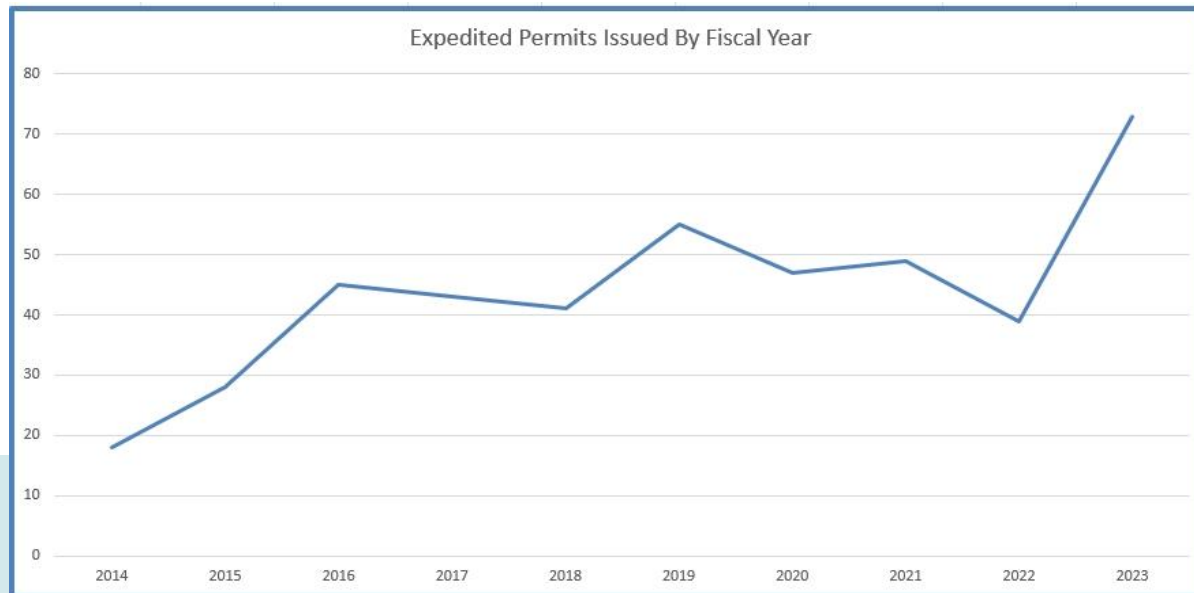
PERMIT ACTIONS BY TYPE





PERMIT FEES

- **Annual Permit Fees**
 - Unlikely to make any changes next year
- **Permit Application Fees**
 - Unlikely to make any changes next year
- **Expedited Permit Application Fees**
 - We are considering increasing fees next year





DRAFT TAP MODELING GUIDELINE

- Georgia EPD's "Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions"
- DRAFT updates to this document and 1-page fact sheet were released for public review and comment on December 1, 2023.
- Comments are due by January 2, 2024.
- Send comments to permit.modeling@dnr.ga.gov



TAP MODELING GUIDELINE UPDATES

- Modeling must be conducted on a facility-wide basis including equipment or operations exempt from permitting per GA Rule 391-3-1-.03(6).
- ISCST3 is no longer an acceptable model (must use AERMOD for refined modeling).
 - There will be a six-month grace period from the final publication of the TAP Modeling Guideline.
- Applicant must complete and submit “AERMOD TAP Modeling Checklist” as part of their application.
- Updated SCREEN3 modeling procedures, including building downwash.
- Updated procedure for calculating the Minimum Emission Rate (MER) used for screening.



OTHER MODELING NOTES

- Updated IRIS assessment for formaldehyde
 - EPD will adopt the new risk value once approved by EPA
 - If TAP modeling can't be passed, the facility must install “New Source MACT”
- Applicants are encouraged to reach out to the Data & Modeling Unit (DMU) prior to modeling
 - Byeong-Uk Kim, DMU manager
 - Byeong.Kim@dnr.ga.gov



STARTUP/SHUTDOWN/MALFUNCTION (SSM)

2015	EPA Finding of Substantial Inadequacy issued to 36 state and local agencies, including Georgia
2015 - 2016	EPD works with stakeholders to develop a SIP revision. <u>The Georgia Rule changes do not take effect until EPA approves the SIP revision</u>
2020	EPA issues a new SSM Policy, but does not rescind the SSM SIP call
2021	EPA rescinds the 2020 SSM Policy and announces that it intends to enforce the 2015 SSM SIP call
2022	Oral arguments held on March 25, 2022, on SSM litigation. No decision announced to date
2022	EPA CD finalized. EPA must act on Georgia's SSM SIP submittal by February 22, 2023



STARTUP/SHUTDOWN/MALFUNCTION (SSM)

November 28, 2022	EPA proposed disapproval of the Georgia SSM SIP
January 10, 2023	EPD withdraws the Georgia SSM SIP submittal
January 2023 – April 2023	EPD worked with stakeholders and EPA to revise the Georgia Rules and address deficiencies noted in EPA’s proposed disapproval
April 25, 2023	DNR Board Briefing
May 23, 2023	DNR Board Re-Briefing
June 29, 2023	Public hearing
July 6, 2023	Close of the public comment period
August 22, 2023	DNR Board adoption
September 13, 2023	Submit the final SIP revision to EPA



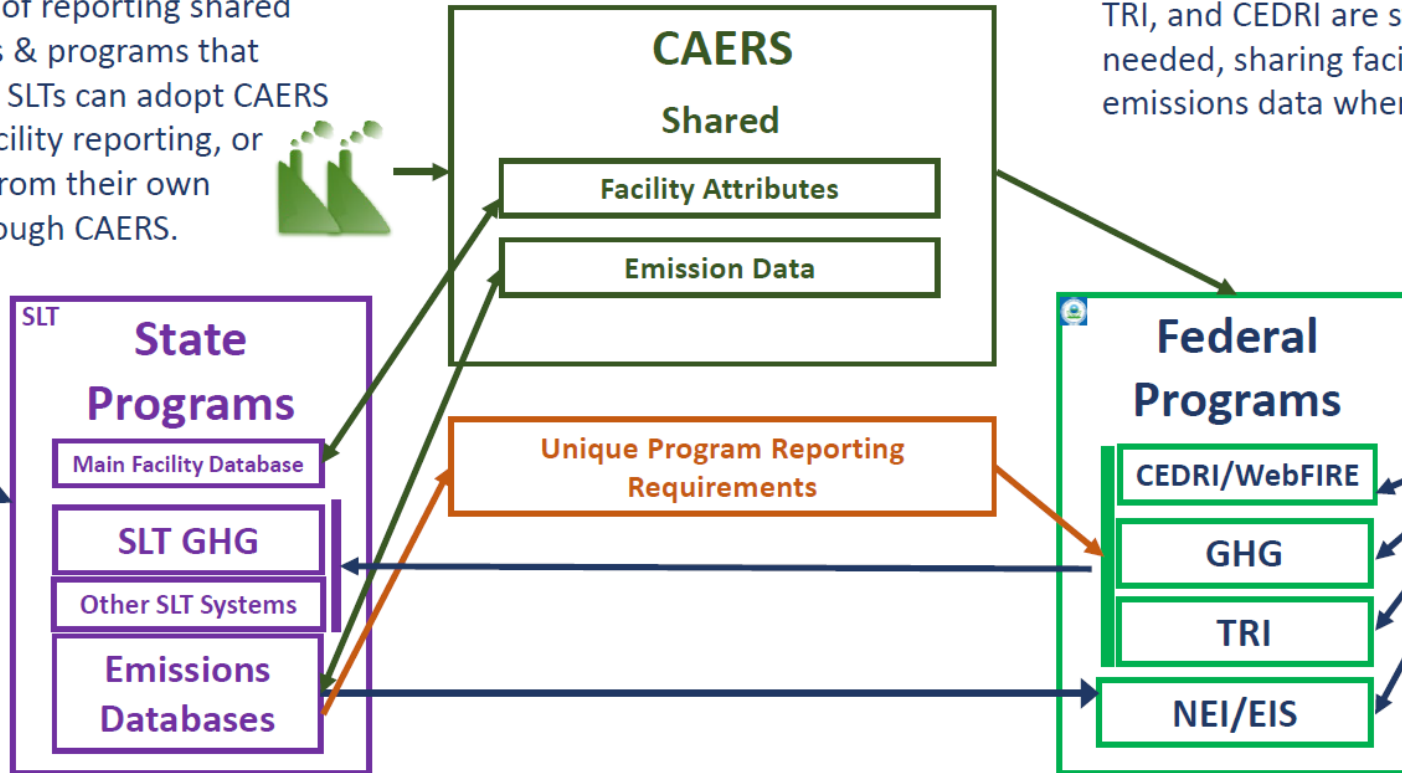
STARTUP/SHUTDOWN/MALFUNCTION (SSM)

- (iii) Sources that are unable to comply with an applicable emission limitation or standard during periods of startup or shutdown may submit a request for an alternative emission limitation (AEL) to apply during startup and shutdown.
- (I) The AEL request shall satisfy the following criteria:
 - I. Be specific to the source and the source's specific control strategies;
 - II. **Demonstrate that it is technically infeasible, considering the specific control strategy, to comply with the applicable SIP emission limitation during startup or shutdown periods;**
 - III. Include an analysis of the potential worst-case emissions that could occur during startup and shutdown based on the applicable AEL;
 - IV. The frequency and duration of operation in startup or shutdown mode are minimized to the greatest extent practicable;
 - V. **All practicable steps are taken to minimize the impact of emissions during startup and shutdown on ambient air quality;**
 - VI. The facility is operated at all times in a manner consistent with good practice for minimizing emissions and that the source uses best efforts regarding planning, design, and operating procedures; and
 - VII. The owner or operator's actions during startup and shutdown periods are documented by signed, contemporaneous operating logs or other relevant evidence.



CAERS OVERVIEW

A CAERS approach supports a single point of reporting shared data for SLTs & programs that participate. SLTs can adopt CAERS for direct facility reporting, or share data from their own systems through CAERS.



Separate entry points for SLTs, GHG, TRI, and CEDRI are still retained as needed, sharing facility data and emissions data where appropriate.



CAERS = Combined Air Emissions Reporting System



CAERS IMPLEMENTATION

■ **Development of CAERS**

- Pilot with Georgia EPD and 12 GA facilities (2018-19)
- CAERS v1 (2020), Georgia
- CAERS v2 (2021), added Pima AZ & DC
- CAERS v3 (2022), added Rhode Island
- CAERS v4 (2023), added Idaho and Maine

■ **HAP Emissions in CAERS**

- Currently, HAP emissions reporting to EPD is optional
 - In 2023, 15 facilities submitted HAP emissions and 98 facilities participated in the “pilot” program.
- EPD has conducted several stakeholder meetings to get feedback on requiring a HAP emissions inventory
 - EPA’s proposed AERR rule updates requires HAP submittals



PROPOSED AERR RULE

- **Updates to the Air Emissions Reporting Requirements (AERR) rule were proposed on August 9, 2023.**
 - The proposed rule would require HAPs to be submitted and would significantly increase the number of sources required to submit emissions inventories.
- **Georgia EPD submitted comments to EPA:**
 - In Georgia, there are approximately 320 major source, 1700 non-major sources that have a NAICS code, 1400 facilities in our system without a NAICS code, and an unknown number of non-major facilities not tracked in our system.
 - EPD would not be able to meet the AERR requirements without significantly increasing the number of staff or the workload for current staff.
 - EI reporting should be limited to facilities with air permits.



PM NAAQS REVIEW SCHEDULE

- **Proposed PM NAAQS Rule**
 - Signed January 6, 2023
 - Published in the FR on January 27, 2023
- **Public Comment Period**
 - Comments were due March 28, 2023
 - Georgia EPD submitted comments
- **Final PM NAAQS Rule – Late 2023 or early 2024?**



PROPOSED PM NAAQS

- The rule proposes to lower the annual $\text{PM}_{2.5}$ standard from $12.0 \mu\text{g}/\text{m}^3$ to a level of **between 9.0 and 10.0 $\mu\text{g}/\text{m}^3$** .
- The rule proposes to retain the daily $\text{PM}_{2.5}$ standard at the current level of **35 $\mu\text{g}/\text{m}^3$** .
- The rule proposes to retain the primary 24-hour PM_{10} standard, secondary 24-hour $\text{PM}_{2.5}$ standard, secondary annual $\text{PM}_{2.5}$ standard, and secondary 24-hour PM_{10} standard.



DESIGNATIONS SCHEDULE

- **State's Designation Recommendations**

- One year after effective date of new NAAQS
 - **Late 2024?** Based on **2021-2023** PM_{2.5} data?
- Based on Five Factors
 - 1: Air Quality Data (**2021-2023**)
 - 2: Emissions and Emissions-Related Data
 - 3: Meteorology
 - 4: Geography/Topography
 - 5: Jurisdictional Boundaries

- **EPA's Final Designations**

- Two years after effective date of new NAAQS
 - **Late 2025?** Based on **2022-2024** PM_{2.5} data?



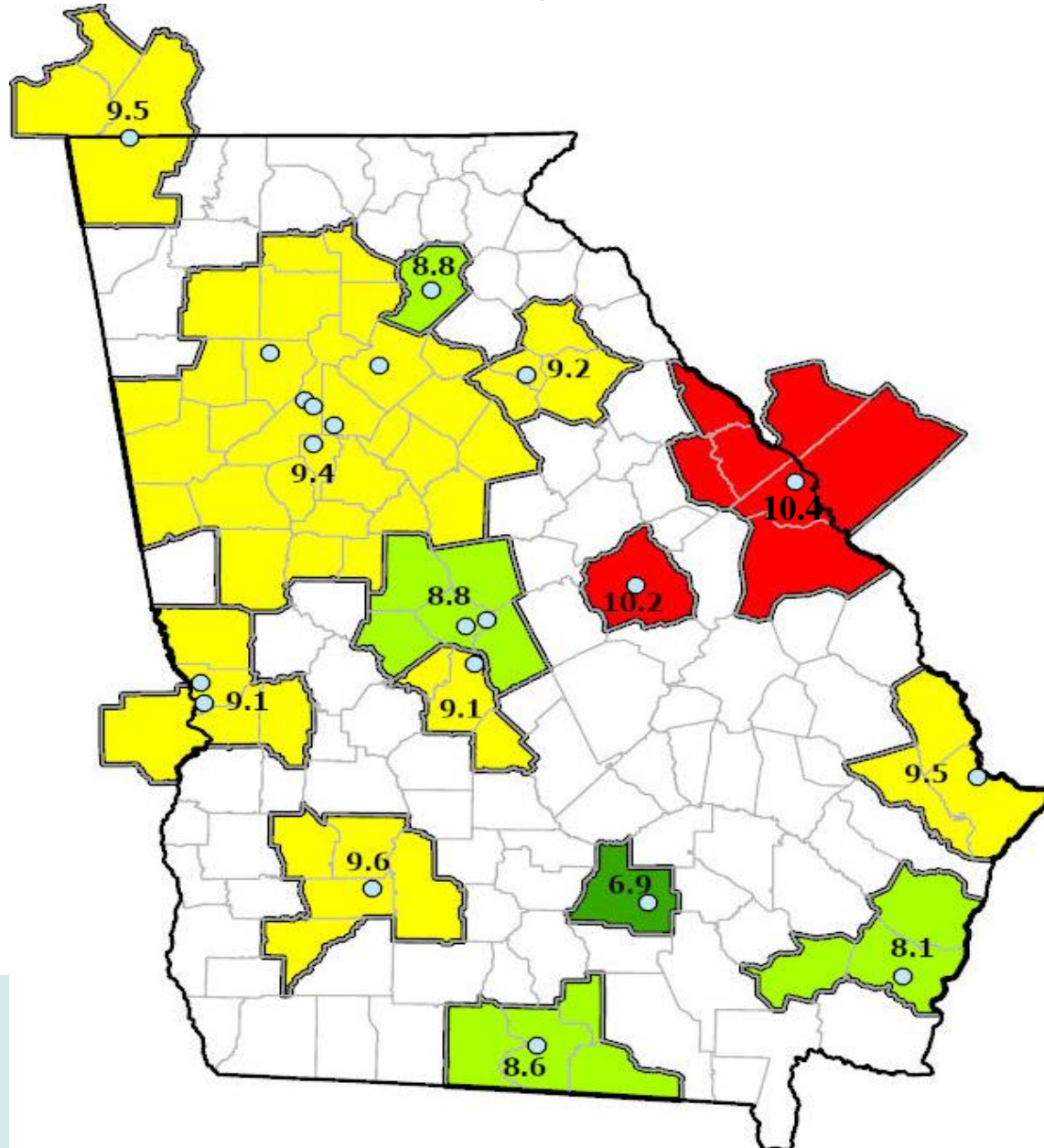
PERMITTING REQUIREMENTS

- Nonattainment Areas (designation process)
 - PM_{2.5}, SO₂, **NO_x**, **VOC**, **NH₃**
 - RACM/RACT (existing sources)
 - LAER (new sources)
 - Emission offsets
- Attainment Areas
 - For PSD projects, new NAAQS applies upon the effective date of the new standard
 - **Difficulty passing cumulative PSD modeling**
- Can have a significant impact on economic development

NO_x, VOC, and NH₃ can be removed as precursor pollutants if the state submits an insignificance demonstration and EPA approves it.



2022 ANNUAL PM_{2.5} DESIGN VALUES





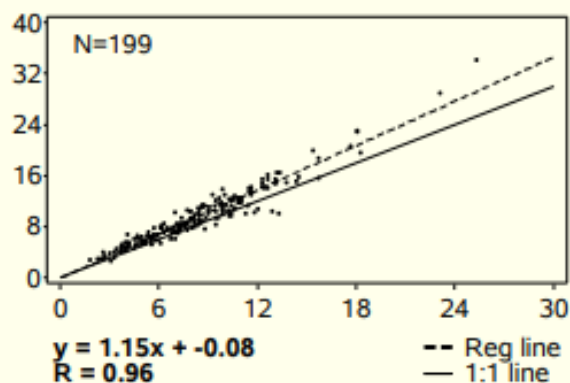
FEM vs. FRM IN AUGUSTA

PM_{2.5} Continuous Monitor Comparability Assessment

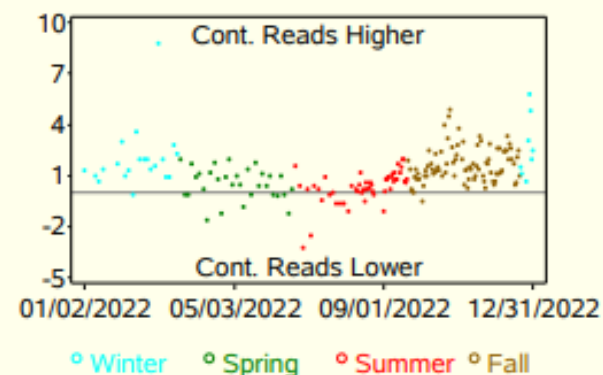
Site 13-245-0091: Augusta, GA

FRM: R & P Model 2025 PM-2.5 Sequential Air Sampler w/VSCC - Gravimetric (120,145), PM2.5 - Local Conditions (88101), POC=1,2
Cont: Teledyne T640X at 16.67 LPM - Broadband spectroscopy (238), PM2.5 - Local Conditions (88101), POC=4

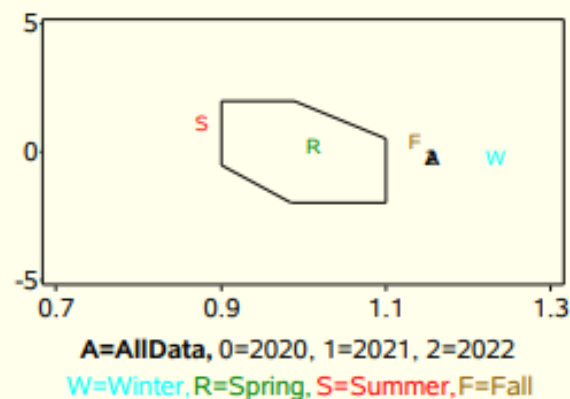
Cont. (y) vs. FRM (x) ($\mu\text{g}/\text{m}^3$)



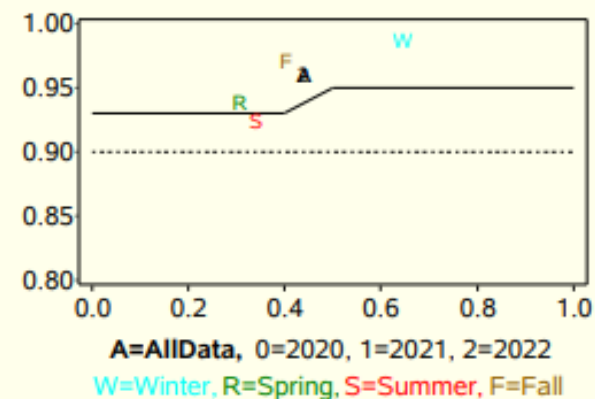
Cont. minus FRM ($\mu\text{g}/\text{m}^3$)



Additive (y) vs. Multiplicative (x) Bias

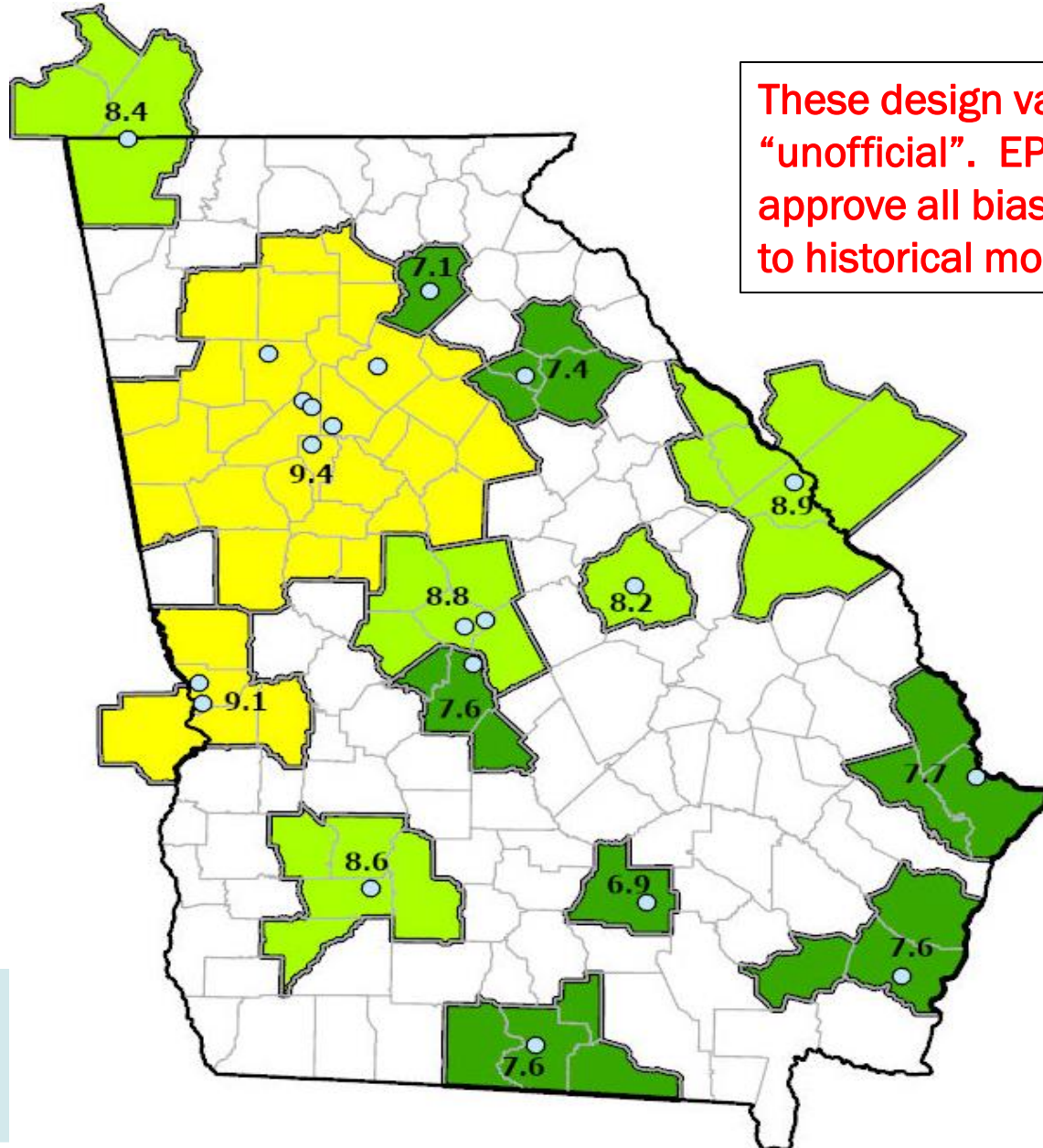


R (y) vs. FRM CCV (x)





2022 ANNUAL PM_{2.5} DVs – ADJUSTED



These design values are “unofficial”. EPA needs to approve all bias adjustments to historical monitoring data.



PM_{2.5} EXCEEDANCES

- GA EPD writes detailed reports for every exceedance of the NAAQS. These reports help determine the cause of the exceedance and include discussions on meteorology, emissions, and air quality.

Year	Wildfires/ Rx Fires	Saharan Dust	Fireworks	Other
2019	6			
2020	1	8	1	
2021	18		3	
2022	11			
2023	41			1

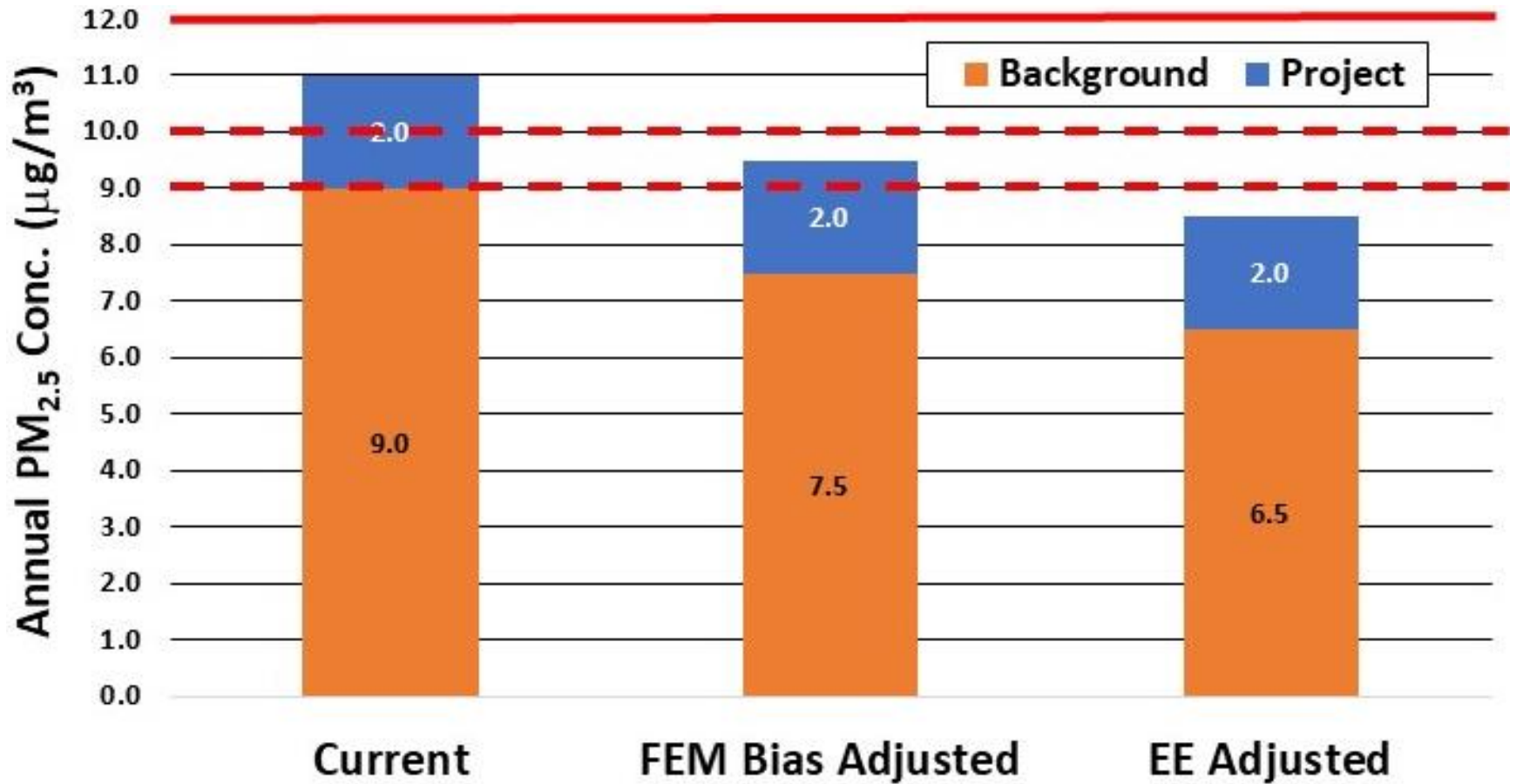


EXCEPTIONAL EVENTS

- Every $\text{PM}_{2.5}$ exceedance in Georgia since 2019 was caused by an event that is eligible for exclusion under the Exceptions Events Rule.
- When EPA concurs with an Exceptional Event, that data can be excluded from the design value used for comparison to the NAAQS.
- Georgia EPD is working with EPA R4 and Georgia Forestry Commission to develop an Exceptional Events template for prescribed fires.



PSD BACKGROUND ADJUSTMENTS





PROPOSED POWER PLANT GHG RULE

- **Requires nearly all coal and many gas power plants to drastically reduce their carbon emissions by 2038 or shut down.**
- **Comments submitted by:**
 - Georgia EPD, Georgia AG Office (joined OH and WV letters), Georgia Chamber of Commerce, Metro Atlanta Chamber, Georgia Public Service Commission
 - Southern Company, Oglethorpe Power Corporation, and Municipal Electric Authority of Georgia (MEAG)
- **Comments cover various topics including:**
 - Timelines too short to write the plan and implement the required control measures
 - Carbon capture & sequestration (CCS) and hydrogen co-firing are not “adequately demonstrated” technologies



CLIMATE POLLUTION REDUCTION GRANT

- As part of the Inflation Reduction Act, the Climate Pollution Reduction Grants (CPRG) program will provide \$5 billion in grants to states and local governments to develop and implement plans to reduce greenhouse gas (GHG) emissions and other harmful air pollution.
- This two-staged grant program provides funding of \$250 million for noncompetitive planning grants (\$3M to each state to develop a Climate Pollution Reduction Plan), and \$4.6 billion for competitive implementation grants.



PLANNING AND IMPLEMENTATION

■ CPRG Planning Grant

- Georgia EPD is the lead agency and will use the \$3M planning grant to develop Georgia's Climate Pollution Reduction Plan.
- This plan will include a GHG emissions inventory, potential GHG reduction measures, and a low-income and disadvantaged communities benefits analysis.
- Our plan will likely include a transition to carbon-free vehicles (e.g., EVs and hydrogen) along with other strategies.
- The initial "Priority Climate Action Plan" is due March 1, 2024.
- In 2025, a "Comprehensive Climate Action Plan" is due.

■ CPRG Implementation Grant

- Projects described in our Climate Pollution Reduction Plan will be eligible to apply for part of the \$4.6 billion competitive implementation grant.
- Applications for the implementation grants will be due April 1, 2024.



EPA REGULATORY AGENDA

Rule	Proposed	Final
Removal of Title V Emergency Affirmative Defense Provisions From State Operating Permit Programs and the Federal Operating Permit Program	04/2022	06/2023
Review of Final Rule Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act (aka Once In, Always In)	09/2023	05/2024
Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Reconsideration of Fugitive Emissions Rule	10/2022	11/2023
Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Regulations Related to Project Emissions Accounting	12/2023	



EPA REGULATORY AGENDA

Rule	Proposed	Final
Revisions to Minor New Source Review (NSR) Program Requirements for SIPs	X	X
NSPS for GHG Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired EGUs; Emission Guidelines for GHG Emissions From Existing Fossil Fuel-Fired EGUs; and Repeal of the ACE Rule	05/2023	04/2024
Reconsideration of the National Ambient Air Quality Standards for Ozone	X	X
Reconsideration of the National Ambient Air Quality Standards for Particulate Matter	01/2023	10/2023
Review of the Secondary NAAQS for Ecological Effects of NO _x , SO _x , and Particulate Matter	03/2024	12/2024



EPA REGULATORY AGENDA

Rule	Proposed	Final
Revision to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System	10/2023	06/2024
NESHAP: Ethylene Oxide Commercial Sterilization and Fumigation Operations	04/2023	03/2024
Protection of Visibility: Amendments to Requirements for State Plans	02/2024	
Revisions to the Air Emission Reporting Requirements (AERR)	08/2023	06/2024
Regulatory Requirements for New HAP Additions	09/2023	
Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles	05/2023	03/2024



CONTACT INFORMATION

James Boylan, Ph.D.

**Georgia Dept. of Natural Resources
4244 International Parkway, Suite 120
Atlanta, GA 30354**

**James.Boylan@dnr.ga.gov
470-524-0697**



QUESTIONS?

