



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

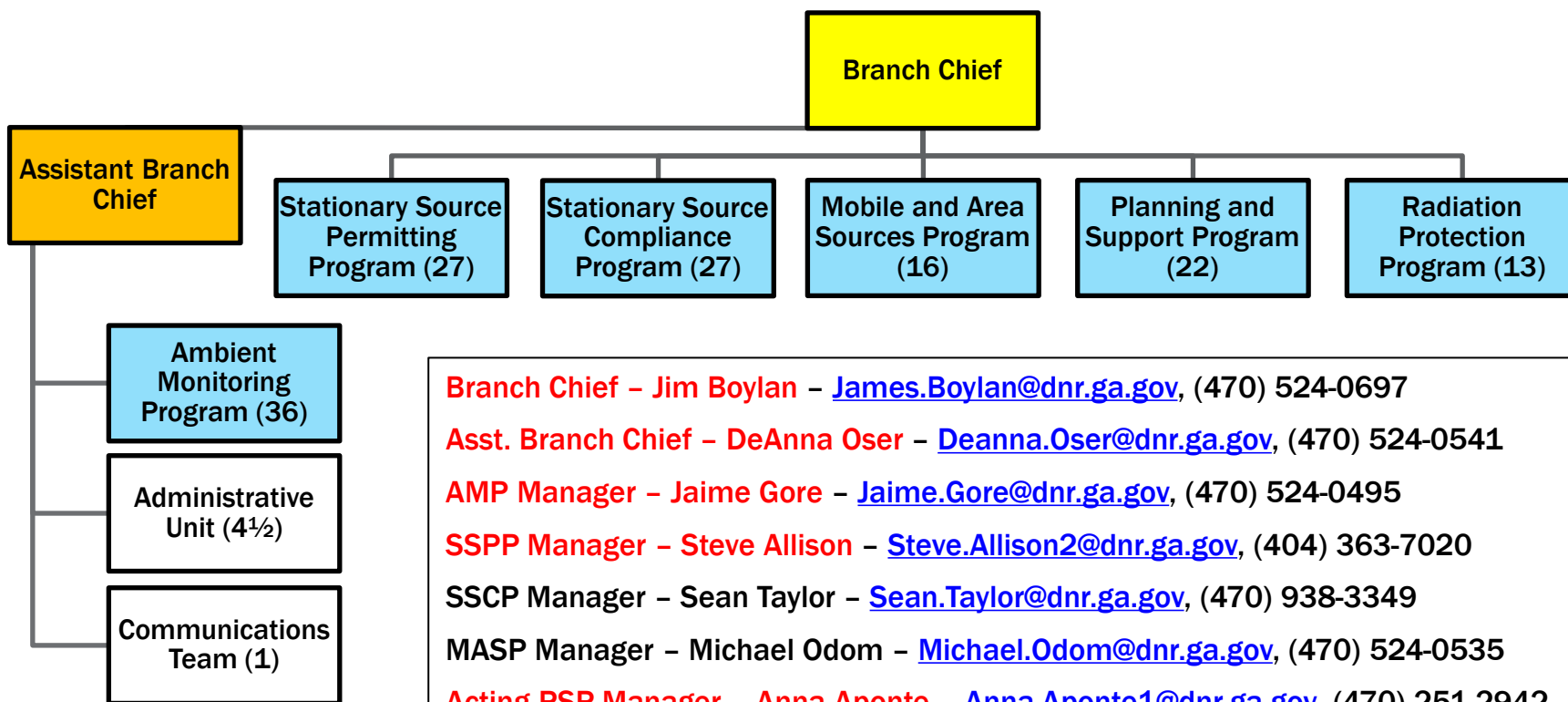
GA EPD Air Protection Branch Updates

James Boylan
Chief, Air Protection Branch

AWMA Southern Section
Orange Beach, AL
September 29, 2023



APB ORGANIZATION



Branch Chief – Jim Boylan – James.Boylan@dnr.ga.gov, (470) 524-0697
Asst. Branch Chief – DeAnna Oser – Deanna.Oser@dnr.ga.gov, (470) 524-0541
AMP Manager – Jaime Gore – Jaime.Gore@dnr.ga.gov, (470) 524-0495
SSPP Manager – Steve Allison – Steve.Allison2@dnr.ga.gov, (404) 363-7020
SSCP Manager – Sean Taylor – Sean.Taylor@dnr.ga.gov, (470) 938-3349
MASP Manager – Michael Odom – Michael.Odom@dnr.ga.gov, (470) 524-0535
Acting PSP Manager – Anna Aponte – Anna.Aponte1@dnr.ga.gov, (470) 251-2942
RPP Manager – Dave Matos – David.Matos@dnr.ga.gov, (470) 524-0690

Red → new to their current position since the last conference.



2015 OZONE NAAQS (70 PPB)

October 1, 2015

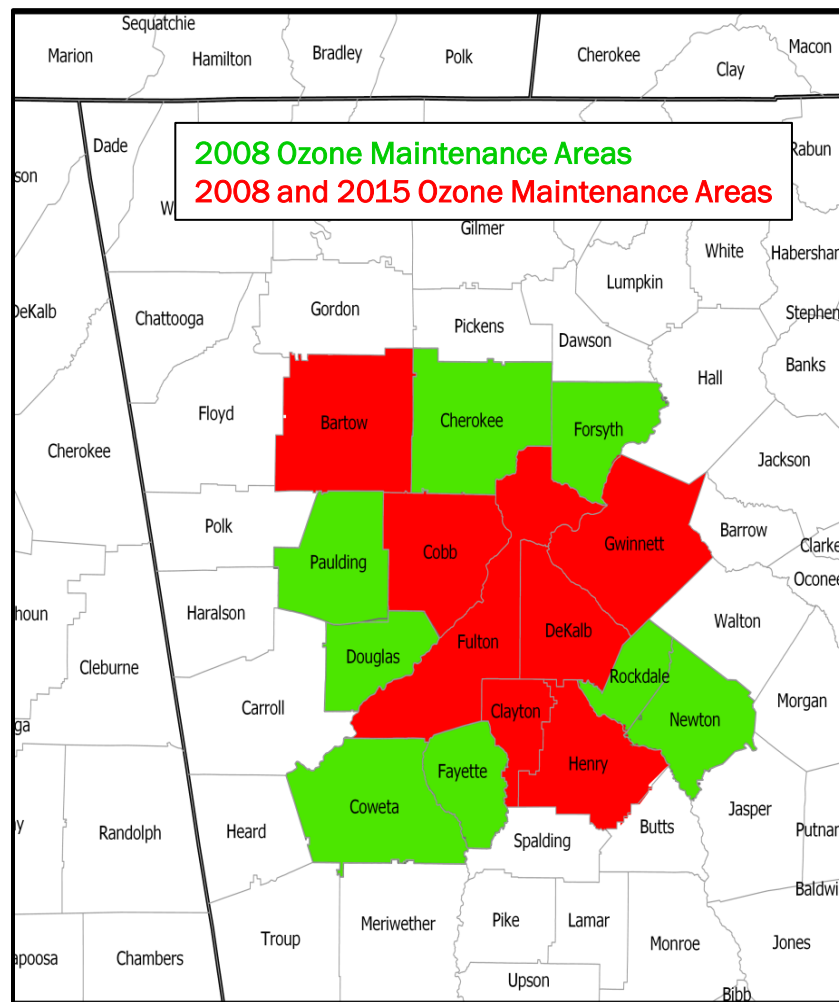
- 2015 Ozone NAAQS = 70 ppb

April 30, 2018

- EPA designated 7 counties in Atlanta (**red**) as nonattainment for the 2015 ozone standard (70 ppb)

November 16, 2022

- EPA redesignated the 7 counties in Atlanta (**red**) as attainment for the 2015 ozone standard



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.
- RACT controls on existing sources.
- 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 CMAQ grants to replace 50 old dirty yard locomotives with new clean yard locomotives.
- Federal DERA grants to replace 3,500 old dirty diesel school buses with new clean school buses.
- VW 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 (the world's busiest airport), especially business travel.



REMOVAL OF NONATTAINMENT NSR

- On June 19, 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

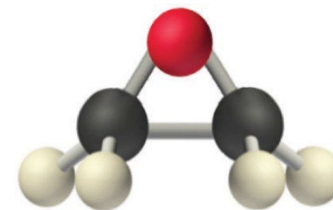
■ Permit Applications

- Currently, we have 281 permit applications under review
 - 31 expedited permits
 - 136 Title V renewals
- **GOAL → 200 permit applications**



ETHYLENE OXIDE PERMITS

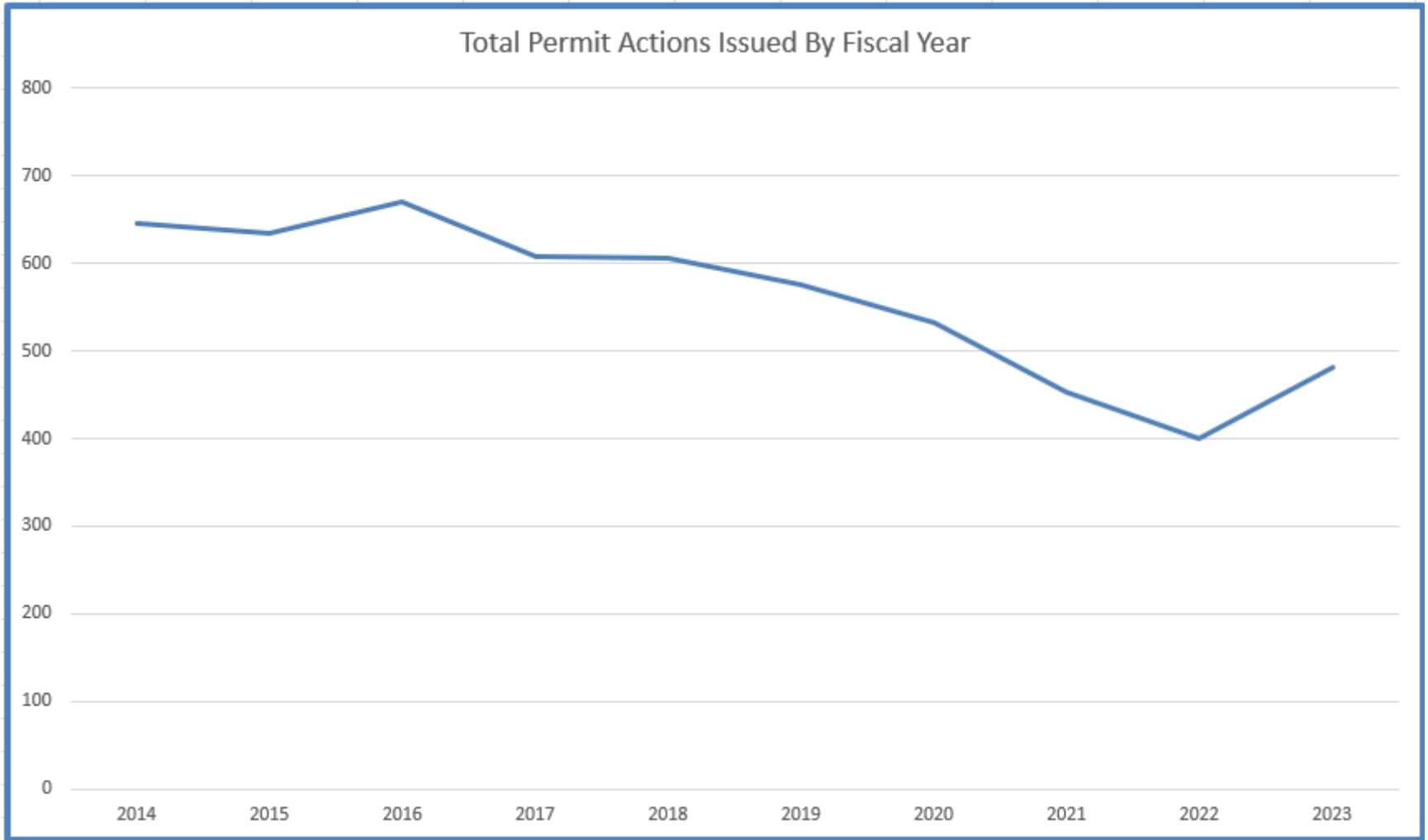
- **Permits have been issued for:**
 - Sterigenics (Atlanta)
 - Becton Dickson (Covington)
 - Becton Dickson (Madison)
 - Sterilization Services of Georgia (Atlanta)
- **Permits require:**
 - Negative pressure full enclosure to ensure no fugitive EtO emissions
 - Dry bed scrubbers for indoor air
 - CEMS on all stacks
- **EPD provided comments on the proposed rule**



Ethylene oxide

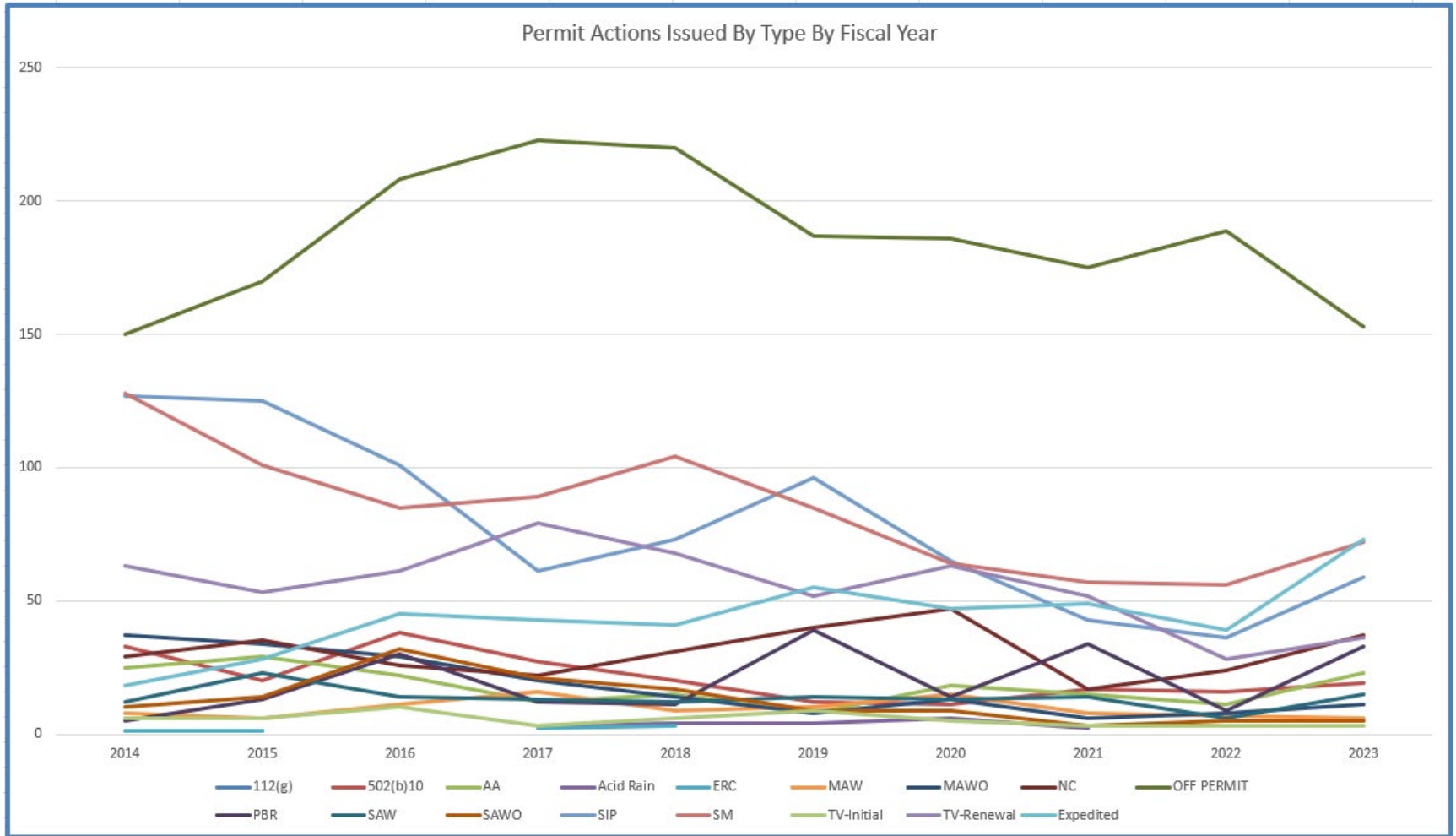


TOTAL PERMIT ACTIONS





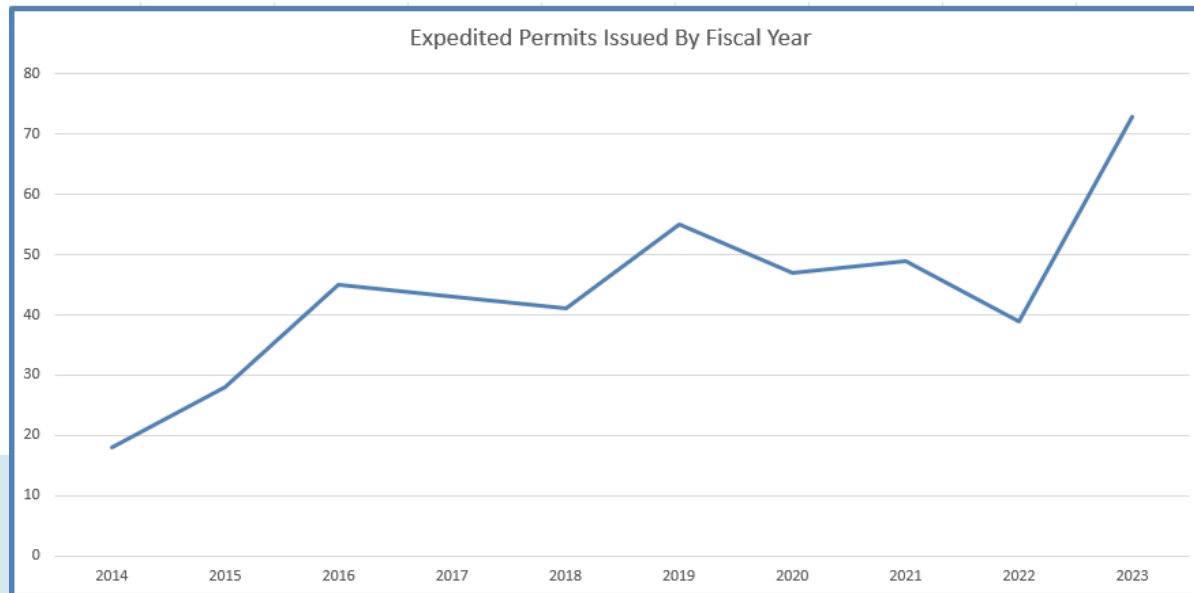
PERMIT ACTIONS BY TYPE





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





PERMIT MODELING

- **Georgia EPD’s “Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions”**
 - Updates to this document and 1-page fact sheet are currently being reviewed by upper management
 - Will include a stakeholder review process
 - When released, the updated version will no longer allow the use of ISC (transition period to AERMOD)
- **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.



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?**



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?



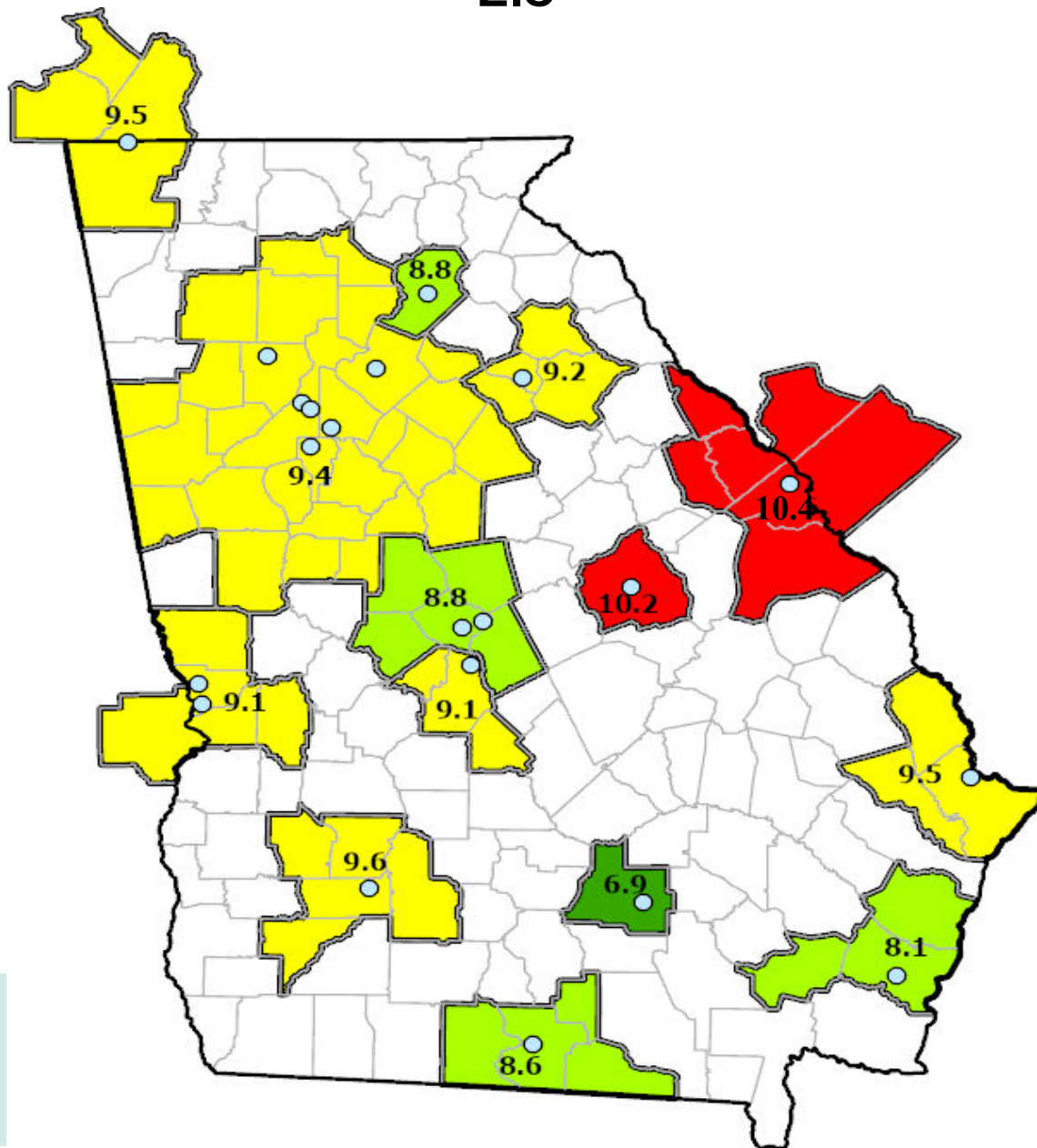
PERMITTING REQUIREMENTS

- **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





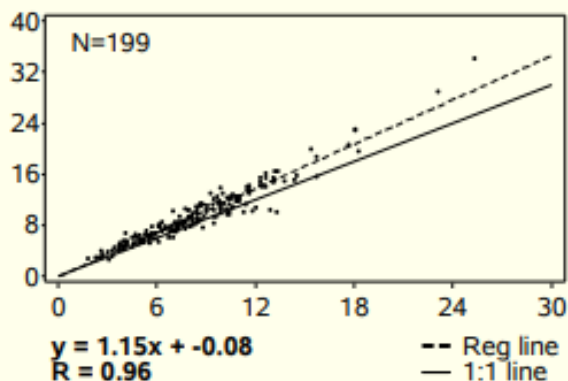
FEM vs. FRM IN AUGUSTA

PM_{2.5} Continuous Monitor Comparability Assessment

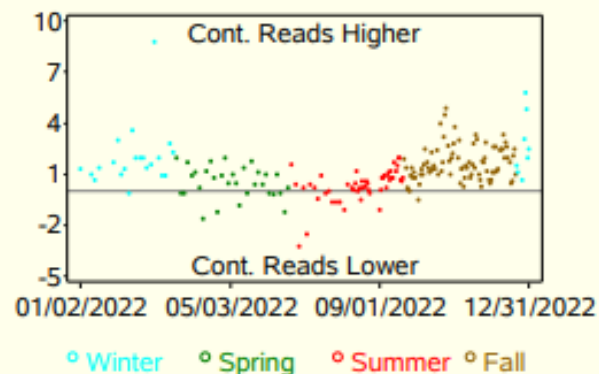
Site 13-245-0091: Augusta, GA

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

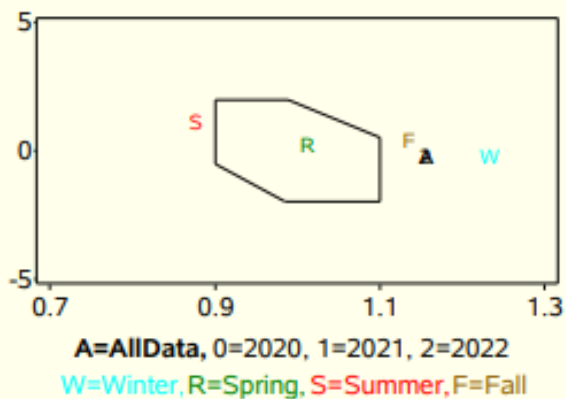
Cont. (y) vs. FRM (x) ($\mu\text{g}/\text{m}^3$)



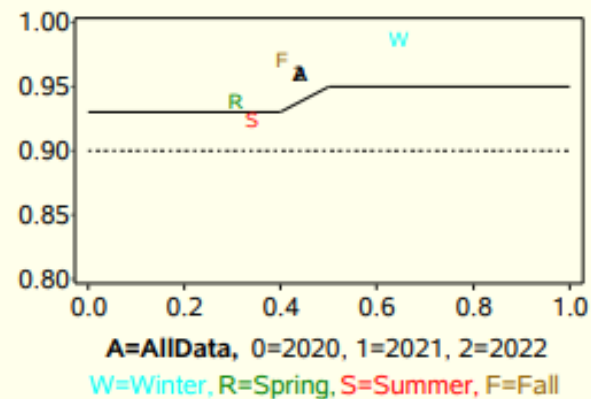
Cont. minus FRM ($\mu\text{g}/\text{m}^3$)



Additive (y) vs. Multiplicative (x) Bias

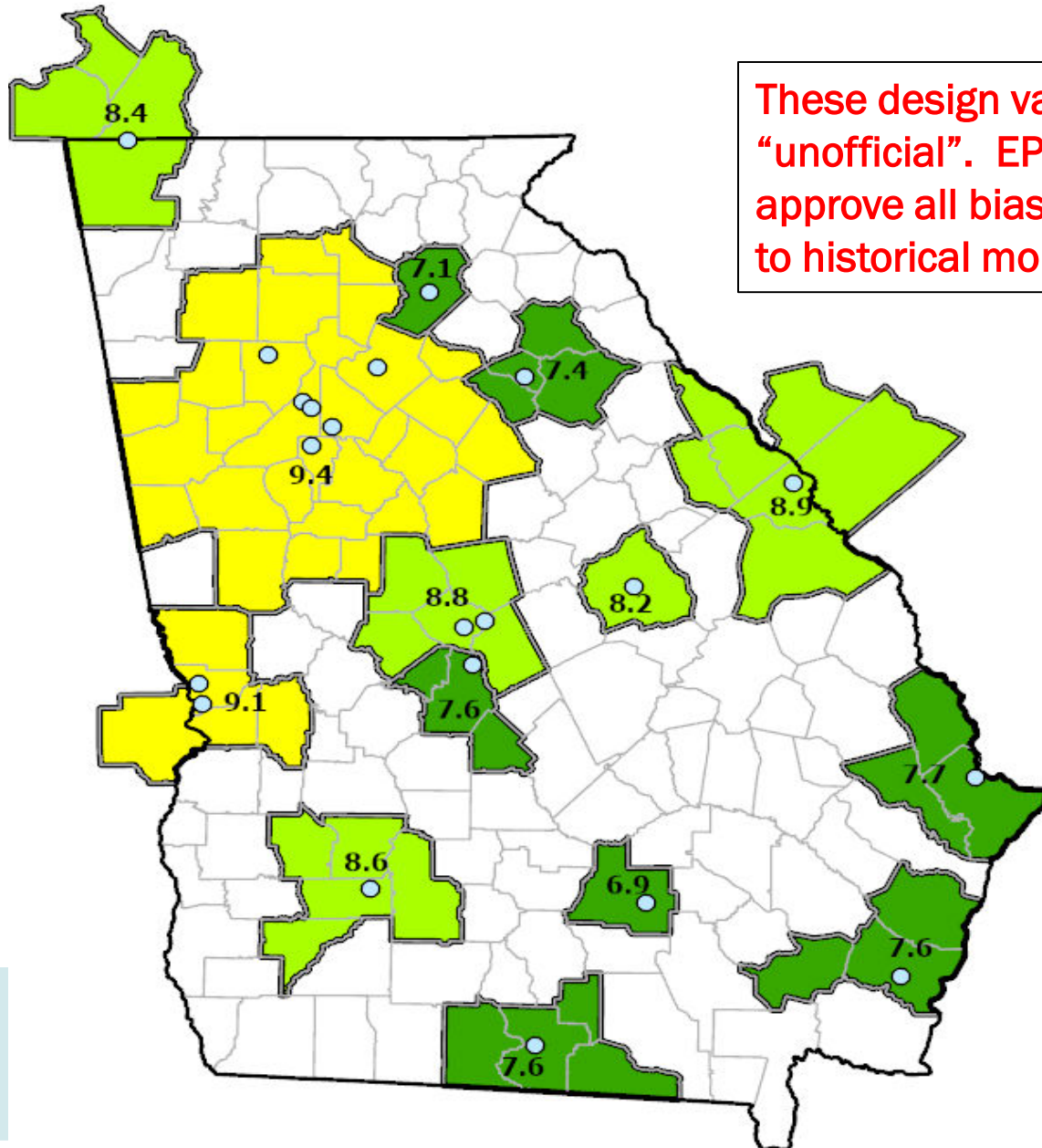


R (y) vs. FRM CCV (x)





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 $PM_{2.5}$ 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.**



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



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**