

# Air Protection Branch Updates

**GIEC Annual Meeting  
November 9, 2022**



# ATLANTA HAS ATTAINED THE 2015 OZONE STANDARD!

- No nonattainment areas in Georgia
- Removal of the requirements pertaining to nonattainment areas and emission statements
  - December 2022 – Briefing the DNR Board
  - February or March 2023 – Request for DNR Board adoption after a public comment period





# APB ORGANIZATION

- **Karen Hays, Branch Chief**
  - DeAnna Oser, Ambient Monitoring
  - Steve Allison, Planning and Support
  - Michael Odom, Mobile and Area Sources
  - Sean Taylor, Stationary Source Compliance
  - Dave Matos, Radiation Protection
- **Jim Boylan, Assistant Branch Chief**
  - Stephen Damaske, Stationary Source Permitting **(Feb 2022)**
  - Andrew Lechner, Communications Specialist **(April 2022)**
  - Administrative Unit



# 2015 STARTUP/SHUTDOWN/MALFUNCTION (SSM) SIP CALL



# **EPA'S STARTUP/SHUTDOWN/MALFUNCTION (SSM) SIP CALL**

- **In May 2015, EPA issued Finding of Substantial Inadequacy for the GA State Implementation Plan (SIP)**
  - **Required EPD to revise or remove Excess Emissions Rule (Subparagraph 391-3-1-.02(2)(a)7. of the Georgia Rules)**
  - **EPA → emission limits must apply at all times**
- **Georgia's Approach:**
  - **Joined litigation led by Florida**
  - **Worked with stakeholders to revise the Rules and meet EPA's November 2016 deadline**



# GEORGIA EXCESS EMISSIONS RULE

## **Rule 391-3-1-.02(2)(a)7. Excess Emissions.**

- (i) Excess emissions resulting from startup, shutdown, malfunction of any source which occur though ordinary diligence is employed shall be allowed provided that (I) the best operational practices to minimize emissions are adhered to, and (II) all associated air pollution control equipment is operated in a manner consistent with good air pollution control practice for minimizing emissions and (III) the duration of excess emissions is minimized.
- (ii) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction are prohibited and are violations of this Chapter (391-3-1).
- (iii) The provisions of this paragraph 7. shall apply only to those sources which are not subject to any requirement under section (8) of this Rule (i.e. Rule 391-3-1-.02) or any requirement of 40 CFR, Part 60, as amended concerning New Source Performance Standards.



# GEORGIA SSM SIP CALL RESPONSE

- Preserve existing Excess Emissions Rule
- **ADDED** Subparagraph 391-3-1-.02(2)(a)11. - Options for startup and shutdown
  - Comply at all times, or
  - Follow general work practice standards, or
  - Follow work practice standards in federal regulations for similar equipment, or
  - Develop case-by-case work practices to be incorporated into the Permit
- **ADDED** Subparagraph 391-3-1-.02(2)(a)12. - Option to develop case-by-case work practices for periods of malfunction to be incorporated into the Permit
- New rules become effective and supersede the existing Excess Emissions Rule only when the SIP is approved by EPA
- Rules changes were approved by the DNR Board in October 2016, and the SIP revision was submitted to EPA in November 2016



## SSM SIP CALL SAGA

- **2020 – EPA issues a new SSM policy regarding SIPs but does not rescind the 2015 SIP Call. 2020 policy states that exemption provisions – both those referred to as “automatic exemptions” and those termed “director discretion provisions” may be permissible in SIPs**
- **2021 – EPA rescinds the 2020 policy and announces that it intends to enforce the 2015 SSM SIP call. EPA also intends to re-evaluate actions that removed IA, TX and NC from the SSM SIP call**
- **March 25, 2022 – Oral arguments. No decision issued to date**
- **June 27, 2022 – CD finalized - EPA required to act on Georgia’s SSM SIP submittal within 240 days (2/22/2023)**





## SSM– WHAT’S NEXT?





# **FINE PARTICULATE MATTER (PM<sub>2.5</sub>) NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)**



## CURRENT PM<sub>2.5</sub> NAAQS

- For PM<sub>2.5</sub>, Annual and 24-hour Standards:
- “Violation” of the NAAQS
  - Annual Standard: Annual arithmetic mean, averaged over 3 years > **12.0  $\mu\text{g}/\text{m}^3$**
  - 24-hour Standard: 98<sup>th</sup> percentile of the daily averages, averaged over 3 years > **35  $\mu\text{g}/\text{m}^3$**
- “Exceedance” of the NAAQS is a 24-hour PM<sub>2.5</sub> measurement > **35  $\mu\text{g}/\text{m}^3$**
- We can have multiple exceedances without having a violation of the NAAQS



# CURRENT PM NAAQS REVIEW

- **December 2020** – EPA determined that the current PM (both PM<sub>10</sub> and PM<sub>2.5</sub>) NAAQS were adequately protective
- **June 2021** - EPA began revisiting that decision
  - **October 2021:** EPA Draft Policy Assessment (PA)
    - Current annual PM<sub>2.5</sub> standard is not adequately protective
    - Current 24-hour PM<sub>2.5</sub> standard is adequately protective
  - **March 2022:** CASAC review of Draft PA
    - Current annual PM<sub>2.5</sub> standard is not adequately protective
    - Majority of CASAC also stated that the 24-hour standard is also not adequately protective
  - **May 2022:** Final EPA PA
    - Current annual PM<sub>2.5</sub> standard is not adequately protective
    - Current 24-hour PM<sub>2.5</sub> standard is adequately protective



# PM NAAQS SCHEDULE

## Office of Management and Budget

- Received Proposed Rule on August 16, 2022

## Rulemaking

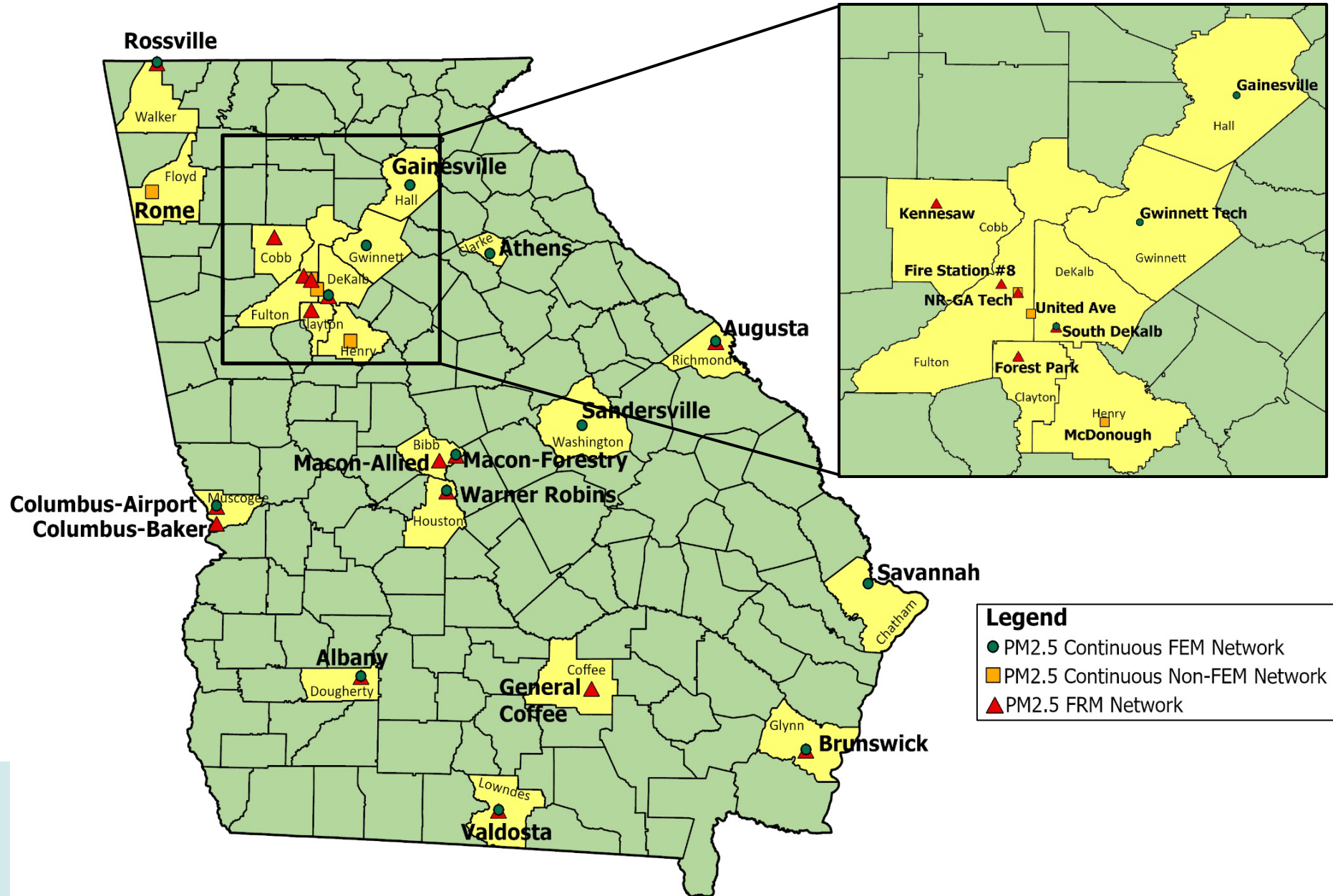
- EPA Proposed Rulemaking – Fall 2022
- EPA Final Rulemaking – Spring 2023

## Designations

- State's Designation Recommendations – 2024
  - Based on **2021-2023** PM<sub>2.5</sub> data
- EPA's Final Designations – 2025
  - Based on **2022-2024** PM<sub>2.5</sub> data

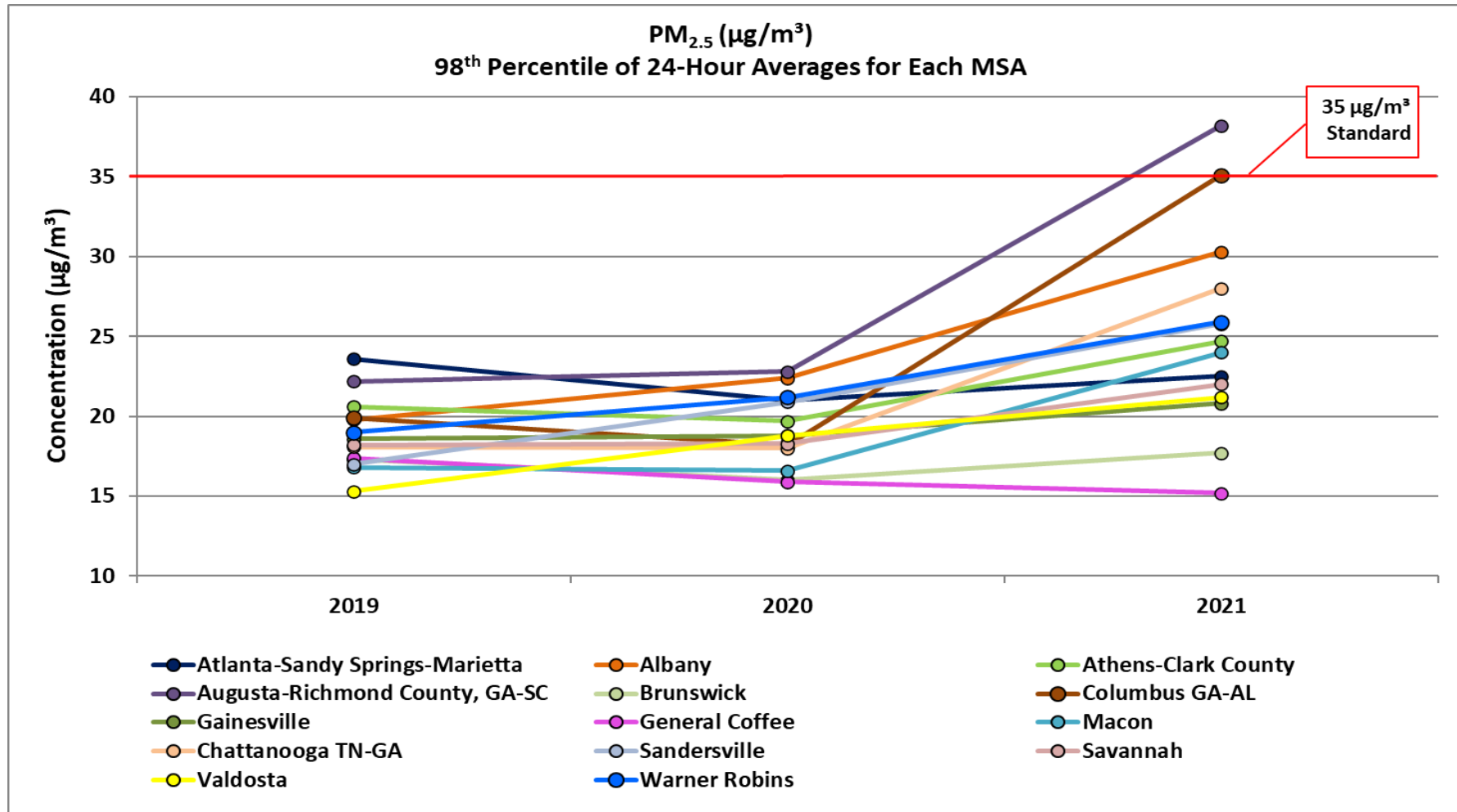


# GEORGIA PM<sub>2.5</sub> MONITOR LOCATIONS



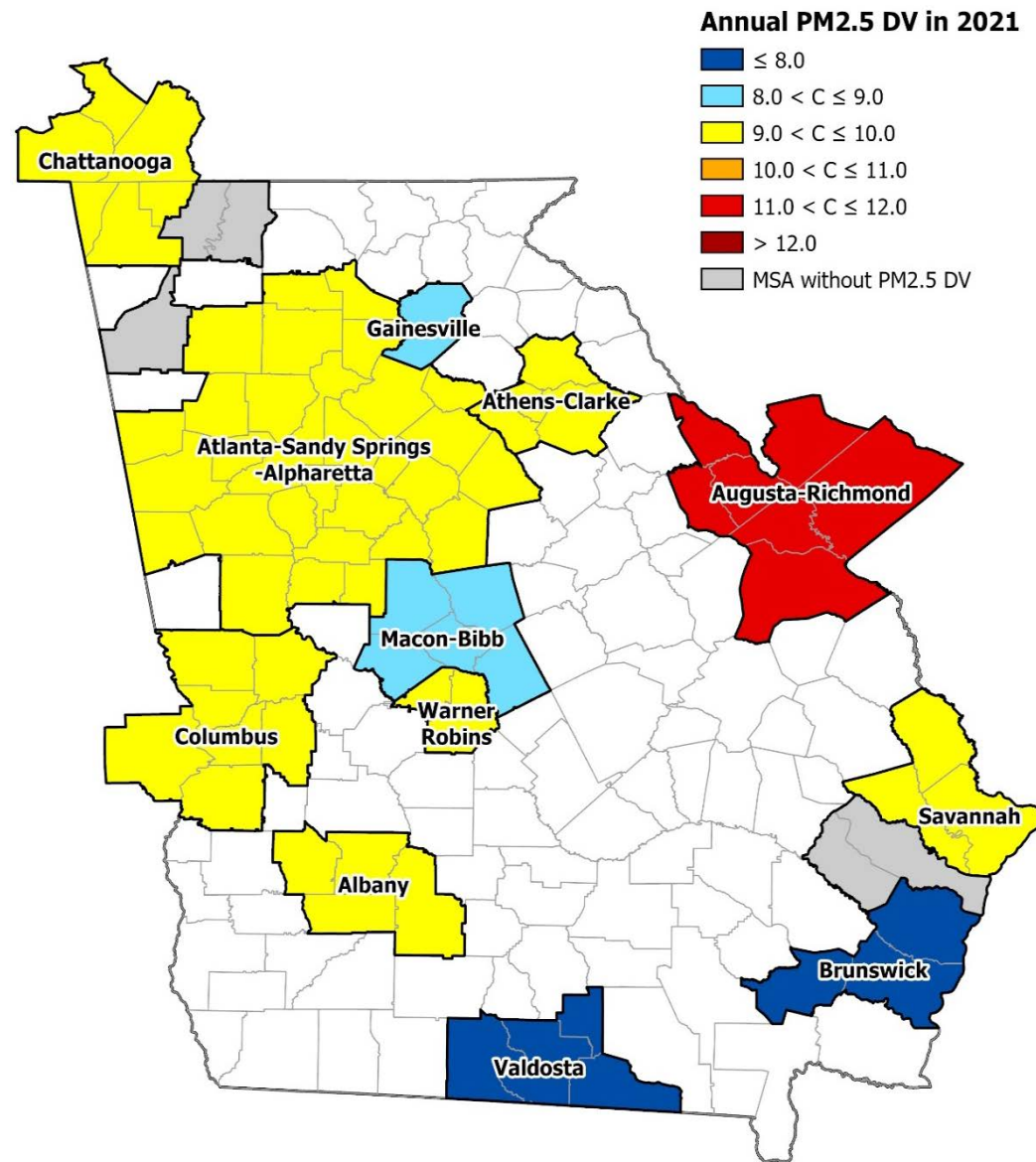


# 98<sup>TH</sup> PERCENTILE OF DAILY PM<sub>2.5</sub> VALUES (NOT 3-YEAR DESIGN VALUES)





# 2021 ANNUAL PM<sub>2.5</sub> DESIGN VALUES (2019-2021)







# WHY WAS PM<sub>2.5</sub> SO HIGH IN 2021?

## 2021 PM<sub>2.5</sub> Exceedances

- 2021 - 29 PM<sub>2.5</sub> exceedances
  - 24 due prescribed fires
  - 4 due holiday fireworks
  - 1 due to diesel truck emissions

## FRM v. FEM PM Monitors

- States have been replacing Federal Reference Monitors (FRMs, 24-hour filter-based monitors) with continuous Federal Equivalent Monitors (FEMs)
- Data shows that FEMs can result in concentrations that are 1 to 2.5 µg/m<sup>3</sup> higher than side-by-side FRMs!
- The FEM bias must be addressed



# SIP REQUIREMENTS FOR A NEW PM<sub>2.5</sub> NAAQS

## ATTAINMENT AREAS

- Submit an Infrastructure SIP
  - Documents the state's ability to implement, maintain, and enforce the new NAAQS
  - Includes interstate transport "Good Neighbor SIP"
- Due 3 years after the effective date of new NAAQS
- It will be more difficult to pass cumulative PSD permit modeling for PM<sub>2.5</sub>

## NONATTAINMENT AREAS

- Submit Attainment SIP
  - Base year and future year emissions inventory, control strategies, attainment modeling, RFP, milestones, contingency measures, and nonattainment NSR plan
  - Due 18 months after designations
- RACM/RACT (existing sources)
- LAER (new sources)
- Emission offsets (PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, NH<sub>3</sub>)



# PERMITTING UPDATES



## APPLICABILITY DETERMINATIONS

- **Revisiting single source determinations based on the 2018 Meadowbrook Letter for landfill and landfill gas to energy (LFGTE) facilities and other sources**
  - Since 2011, EPD determinations were that LFGTE facilities were a single source with the landfills that they reside on/adjacent to
  - Determinations are now on a case-by-case basis and based on individual circumstances and contractual language
- **PSD listed source category of "Fossil-fuel boilers (or combinations) totaling > 250 million BTUs per hour heat input"**
  - EPD is no longer including process heaters in this source category



## PERMITTING UPDATES

- **Project Emissions Accounting Rule: How to determine if a physical change or change in method of operation at a major source would result in a significant emissions increase of a regulated NSR pollutant**
  - **2020:** Rule update allowed states/sources to include contemporaneous decreases in emissions associated with a project when determining if the project results in a significant increase in emissions
  - **2021:** EPA denied a petition for reconsideration or stay of the Project Emissions Accounting Rule, but stated that they intend to revisit Rule



# CHANGES TO PUBLIC COMMENT PERIODS IN GEORGIA

Permit Type	Public Advisory on Permit Application	Public Comment Period on Draft Permit
Minor	If new source or increasing emissions	Case-by-case, based on public interest
Synthetic Minor	If new source or increasing emissions	<b>Yes, as of March 2022</b>
New Sources (PSD minor)	Yes	<b>Yes, as of March 2022</b>
Title V initial/renewal	Yes	Yes
PSD/NNSR/112(g)	Yes	Yes



# MODELING



# PERMIT MODELING GUIDANCE

- **Guidance Documents:**
  - “Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM<sub>2.5</sub> under the PSD Permitting Program”, released by EPA in 2019
  - “Guidance on the Use of EPA’s MERPs to Account for Secondary Formation of Ozone and PM<sub>2.5</sub> in Georgia”, released by GA EPD in 2019
  - “Guidance for Ozone and Fine Particulate Matter Permit Modeling”, released by EPA on July 29, 2022
- The GA EPD guidance and EPA guidance documents are very similar, except that the GA EPD guidance gives additional flexibility to screen out of modeling when the PM<sub>2.5</sub> emissions are below the Significant Emissions Rate (10 tpy)





## MODELING TOXIC AIR POLLUTANTS (TAP)

- More frequent requests from EPD to show compliance with Air Toxic Guidelines based on comparisons with the maximum emission rate (MER) or modeling
  - Goal – more consistent modeling of TAPs across units and industries
- 40 MMBtu/hr or larger natural gas fueled equipment – looking at arsenic and other HAPs related to fuel combustion
- EPD is also addressing emissions from wood drying kilns to include MER comparisons/modeling for: acetaldehyde, acrolein, formaldehyde, methanol, and phenol and if wood-fired: arsenic, and hydrogen chloride
- Upcoming: revisions to the Air Toxics Guidelines
  - Will require AERMOD, no more ISC



# **REGIONAL HAZE PHASE 2 AND PLANNING FOR PHASE 3**



## REGIONAL HAZE RULE

- Finalized in 1999
- Requires visibility in Class 1 areas to be reduced to natural conditions by 2064
- Requires states to develop SIPS every 10 years to address emissions that contribute to regional haze





## REGIONAL HAZE ROUND 2

- The southeastern states “VISTAS” conducted Areas of Influence screening to rank sectors and facilities based on their sulfate and nitrate contributions at each Class I area
- Rankings used to identify 87 individual facilities for Particulate Matter Source Apportionment Technology (PSAT) tagging. PSAT tagging used to determine the sulfate and nitrate contributions from each facility at each Class I area in the modeling domain
  - Five sources tagged for PSAT in Georgia
- Each VISTAS state applied a PSAT contribution threshold based on the facility sulfate and facility nitrate impacts (separately, not combined) to determine which sources to consider for a four-factor analysis



## REASONABLE PROGRESS ANALYSIS

- States were required to evaluate selected sources to determine if additional controls were feasible
- Four Factor Analysis:
  - Potential costs of compliance (\$/ton)
  - Time necessary for compliance
  - Energy and non-air quality environmental impacts of compliance
  - Remaining useful life of the source(s)
- Based on analysis, new permit conditions incorporated into the Regional Haze SIP



## GA REGIONAL HAZE ROUND 2 PERMIT CONDITIONS

- **International Paper –Savannah**
  - No longer allowed to burn coal in the No. 13 Power Boiler (PB13)
- **Georgia Power –Plant Bowen**
  - Limit the Steam Generating Units (SG01, SG02, SG03, SG04) to the MATS SO<sub>2</sub> emission limit of 0.20 lb/MMBtu based on a 30-day rolling average
- **Georgia Pacific –Brunswick Cellulose**
  - Required to eliminate the firing of tire derived fuel in the No. 4 Power Boiler, and to limit the firing of No. 6 fuel oil to times of natural gas curtailment with an additional fuel oil firing allowance to address adverse bark/wood fuel conditions ( $\leq 15$  tpy SO<sub>2</sub>)



## REGIONAL HAZE ROUND 3

- **Regional Haze Round 3 SIPs due July 1, 2028**
- **Discussions have already begun within VISTAS**
  - EPA seeking more focus on nitrate contribution
  - VISTAS states – role of ammonia in nitrate formation





## WHAT TO EXPECT IN 2023

- **Removal of the NNSR requirements in the Georgia Rules**
- **Proposed rulemaking:**
  - **10/14/2022: Reconsideration of the Fugitive Emissions Rule**
  - **TBD: Particulate Matter NAAQS (Fall 2022)**
  - **TBD: new GHG regulation for EGUs**
  - **TBD: Minor NSR sources (July 2023)**
- **More on Environmental Justice and Title VI expectations from EPA**
- **AirToxScreen 2020**
- **HAP emissions inventory stakeholder process**
- **New Ozone NAAQS proposal?**





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**APB Organization Chart**