

Responses to FLM Consultation Comments Received on Georgia’s Draft State Implementation Plan for Regional Haze (Second Planning Period)

The Regional Haze Rule requires states to take comment on their proposed regional haze plans from both federal land managers (FLMs) and from the public. The FLMs have direct responsibility for the Class I areas. EPD’s actions with respect to the comment process are summarized below.

On April 22, 2022, EPD submitted the draft plan to FLMs from the following agencies: U.S. Forest Service, National Park Service, and U.S. Fish & Wildlife Service. Comments from the U.S. Forest Service and National Park Service were received on June 21 and June 22. Also, the National Parks Service submitted comments on the prehearing submittal on July 26, 2022. All FLM comments and EPD’s responses have been included in Appendix H of the Regional Haze Plan.

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1.0 USDA Forest Service

Georgia EPD received the following comments from USDA Forest Service regarding Georgia's prehearing draft Regional Haze SIP.

1.1 Source Considerations and Screening Thresholds Comment:

Georgia EPD received a comment from USDA Forest Service regarding source considerations and screening threshold. Commenter states that the EPD used Particulate Matter Source Apportionment Technology (PSAT) to identify sources that contributed $\geq 1\%$ total visibility impairment caused by sulfate or nitrate at any Class I area in 2028. A four-factor analysis was then requested from these sources. The USDA Forest Service finds this method technically sound and greatly appreciates this approach as aggregating the contributions of these pollutants may exclude feasible, cost-effective control options for a single pollutant.

Response:

Georgia EPD is pleased to hear that the USDA Forest Service finds our methods for source consideration and screening thresholds to be technically sound. The Division thanks the USDA Forest Service for its comments and for reviewing the methodology in depth.

1.2 Class I Impact Modeling and Four-Factor Analysis Comment:

Georgia EPD received a comment from USDA Forest Service regarding Class I Impact Modeling and Four-Factor Analysis. Commenter states that the Cohutta Wilderness Area is the only Class I area within the state of Georgia federally managed by the USDA Forest Service. Other USDA Forest Service Class I areas within proximity include Shining Rock Wilderness, Joyce Kilmer-Slickrock Wilderness, Linville Gorge Wilderness, and Sipsey Wilderness. The Regional Haze Rule requires each state to develop a long-term strategy that includes the control measures necessary to make reasonable progress at each Class I area outside the state that may be affected by emissions from the state.¹ The USDA Forest Service greatly appreciates that the EPD assessed Georgia-originating impacts on Class I areas both within and outside the state. Having said this, our overriding concern is that a sufficient number of emission sources are selected. The methodology discussed earlier for source consideration resulted in selection of three facilities for four-factor analysis, only one of which significantly impacts USDA Forest Service Class I areas in the Southeast. The USDA Forest Service assessed facilities contributing the majority of impairment attributable to Georgia at FS Region 8 Class I wilderness areas.² The USDA Forest Service would appreciate EPD conducting additional four-factor analyses for two facilities:

- GA Power Company - Plant Wansley; and
- TEMPLE INLAND.

If either facility has an anticipated closure date, the USDA Forest Service would ask that it be made federally enforceable through incorporation into the SIP. The USDA Forest Service appreciates clarification regarding emissions from Mohawk Industries Inc.

¹ See "Guidance on Regional Haze State Implementation Plans for the Second Implementation Period"

(https://www.epa.gov/sites/default/files/2019-08/documents/8-20-2019_-_regional_haze_guidance_final_guidance.pdf)

² Data sourced from Task 5 report: Area of Influence Analysis Southeastern VISTAS II Regional Haze Analysis Project (2018). Accessible at <https://www.metro4-sesarm.org/content/task-5-area-influence-analysis>

After screening, Georgia EPD ultimately solicited four-factor analyses from three facilities:

- International Paper (IP) – Savannah;
- Georgia Power – Plant Bowen; and
- Brunswick Cellulose.

EPD proposes the following:

- International Paper (IP) – Savannah will no longer be allowed to burn coal in the No. 13 Power Boiler (PB13);
- Plant Bowen will limit the Steam Generating Units (Emission IDs SG01, SG02, SG03 and SG04) to the MATS SO₂ emission limit of 0.20 lb/MMBtu based on a 30-day operating rolling average; and
- Brunswick Cellulose is required to eliminate the firing of tire derived fuel (TDF) in the No. 4 Power Boiler, and to limit the firing of No. 6 fuel oil to times of natural gas curtailment with additional fuel oil firing allowed during adverse bark/wood fuel conditions.

The USDA Forest Service finds this to be an acceptable start; however, the USDA Forest Service would like EPD to be aware of the increasing contribution of NO_x to visibility impairment. For the Cohutta Wilderness area from 2001- 2020, while SO₂ contributions to visibility impairment have decreased from 85% to 45%, NO_x contributions to visibility impairment have increased from 2% to 27% on the most impaired days.³ The USDA Forest Service recommends EPD assess NO_x controls for reasonable progress for the EPD-identified and additional recommended facilities.

Response:

Georgia EPD appreciates the list of potential sources identified by the USDA Forest Service. All of these sources were evaluated by Georgia EPD as part of our screening approach to identify the sources with the largest visibility impacts at Class I areas in Georgia and neighboring states. Consistent with the Regional Haze Rule, Georgia followed a process (documented in Sections 7.5 and 7.6) to narrow the list of sources required to perform a four-factor analysis. In doing so, Georgia EPD relied on the latest available tools (i.e., AoI and PSAT) to understand source impacts on visibility impairment in each Class I area.

GA Power Company – Plant Wansley (SO₂ and NO_x)

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were below our screening thresholds for both sulfate and nitrate. Additional details can be found in Section 7.6.4.

TEMPLE INLAND (SO₂ and NO_x)

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated

³ Data sourced from Federal Land Manager Environmental Database. Accessible at https://views.cira.colostate.edu/fed/Sites/?appkey=SBA_AqrVVisibility

with PSAT. PSAT results show that NO_x and SO₂ facility contributions are below our screening thresholds for both sulfate and nitrate. Additional details can be found in Appendix E-7a.

Mohawk Industries Inc. (SO₂ and NO_x)

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were below our screening thresholds for both sulfate and nitrate. Additional details can be found in Section 7.6.4.

International Paper (IP) – Savannah (NO_x)

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂ facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate. Additional details can be found in Appendix E-7a.

Georgia Power – Plant Bowen (NO_x)

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂ facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate. Additional details can be found in Appendix E-7a.

Brunswick Cellulose (NO_x)

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂ facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate. Additional details can be found in Appendix E-7a.

NO_x contributions to visibility impairment can vary from year to year. According to Figure 7-44, the NO_x contributions to visibility impairment at the Cohutta Wilderness Area have increased from 1.7% in 2001 to 5.4% in 2019 on the most impaired days. According to Figure 7-45, the NO_x contributions to visibility impairment at the Okefenokee National Wilderness Area have increased from 4.2% in 2000 to 5.9% in 2019 on the most impaired days. As discussed above, NO_x/nitrate were evaluated in the source section approach. However, no NO_x/nitrate sources were selected for a reasonable progress analysis because no facilities exceeded the NO_x/nitrate screening thresholds. PSAT source apportionment modeling clearly demonstrates that contributions from Georgia's point source NO_x emissions is insignificant and additional NO_x controls would not be reasonable. Specifically, the PSAT source apportionment modeling demonstrates that NO_x emissions from all point sources (EGU + non-EGU) in Georgia contributes less than 1% of the total sulfate + nitrate light extinction at all Class I areas. Therefore, NO_x emissions from individual EGU and non-EGU point sources in Georgia will contribute even

smaller percentages to the total sulfate + nitrate light extinction. In addition, the PSAT results indicate that, on average, the reduction of one ton of SO₂ will have the equivalent benefit of reducing 30.7 tons of NO_x at Cohutta Wilderness Area, 19.0 tons of NO_x at the Okefenokee National Wilderness Area, and 19.2 tons of NO_x at the Wolf Island National Wilderness Area. Although sulfates have decreased and nitrates have slightly increased, sulfates are still the dominant visibility impairing species at the Cohutta Wilderness Area, Okefenokee National Wilderness Area, and Wolf Island National Wilderness Area. If sulfates continue to decrease and nitrates continue to increase in the future, it may be appropriate to consider NO_x emission sources for reasonable progress analyses in Georgia's Regional Haze SIP for future planning periods.

1.3 Prescribed Fire Emissions Comment:

Georgia EPD received a comment from USDA Forest Service regarding Prescribed Fire Emissions. Commenter states that fire plays an important role in shaping the vegetation and landscape in GA. Recurring fire has been a part of the landscape for thousands of years. Aggressive fire suppression, coupled with an array of other disturbances (e.g., logging and chestnut blight), has changed the historic composition and structure of the forests. Periodic prescribed burning and other vegetation management can recreate the ecological role of fire in a controlled manner. Fire and fuels management supports a variety of desired conditions and objectives across the forests (e.g., community protection, hazardous fuels reduction, native ecosystems restoration, historic fire regimes restoration, wildlife openings, and open woodland creation, etc.). Recent data on prescribed fire activity, especially within the USDA Forest Service, show that the number of acres burned in prescribed fires during 2011 were lower than all other recent years. For example, within the southern region of the USDA Forest Service a total of 749,080 acres were treated with prescribed fire in 2011, while the average number of acres treated annually from the years 2007-2019 was 980,422. The 2021 target for treatment by prescribed fire within the USDA Forest Service southern region was well over 1 million acres. Furthermore, the land management plans for each of the southern forests call for a cumulative total of up to 2.1 million acres per year to be treated with prescribed fire in the future. The 2017 Regional Haze Rule includes a provision to allow states to adjust the glidepath to account for prescribed fire. While prescribed fire is currently a minor contributor to visibility impairment on the 20% most impaired days as discussed in Section 7.9.1., the USDA Forest Service would like assurances that Georgia EPD will continue to recognize the important ecological role of prescribed fire and in the future adjust the glidepath to account for prescribed fire emissions accordingly.

Response:

Georgia EPD recognizes the important ecological role of prescribed fire as a landscape management tool throughout Georgia. As discussed in Section 7.9.1 (Smoke Management), on July 11, 2008, Georgia EPD entered into a memorandum of understanding with the Georgia Forestry Commission and Georgia Department of Natural Resources Wildlife Resources Division adopting a smoke management plan that addresses the issues laid out in US EPA's 1998 draft guidance for smoke management plans. This plan is sufficient to satisfy the directive in section 308(d)(3)(v)(E). Using this approach, Georgia EPD has been effective with managing air quality during periods of prescribed fire activity in Georgia.

The EPA's revised method for selecting the 20% most impaired days to a large extent eliminates days where light extinction is primarily associated with wildfire and prescribed fire activity. This

methodology helps to minimize impacts associated with fire activity on the 20% most impaired days evaluated during the development of Regional Haze SIPs. For future planning periods, should the 20% most impaired days show a significant increase in organic carbon and elemental carbon that can be attributed to prescribed burning activity, Georgia EPD may consider adjusting the glidepath to account for prescribed fire emissions accordingly. Any decision to adjust the glidepath would involve consultation with EPA, FLMs, and neighboring states to determine if an adjustment to the glidepath in 2064 is necessary.

2.0 National Parks Service

Georgia EPD received the following comments from the National Park Service regarding Georgia's prehearing draft Regional Haze SIP.

2.1 FLM Consultation Comment:

Georgia EPD received a comment from NPS regarding FLM Consultation. Commenter states that the NPS appreciates that Georgia provided the draft SIP materials to the FLMs at least 60 days in advance of their scheduled public comment period. Georgia's FLM consultation period meets the prescribed timeframes outlined in 40 CFR 51.308(i)(2) of the implementing regulations.

As discussed during the NPS/GA consultation meeting, Georgia intends to release the draft SIP for public comment two days after the close of the 60-day FLM consultation period. The NPS objective is that GA EPD can use the information presented in these comments to "meaningfully inform" the long-term strategy and improve the Georgia SIP by securing additional emission reductions in this round of regional haze planning. An approach that allows for *substantive* engagement from the FLMs is consistent with the intent of the consultation procedures outlined in §7491 of the Clean Air Act (CAA) and 40 CFR 51.308(i)(2) of the implementing regulations.

FLM consultation under the Regional Haze process is one of the most significant opportunities for the FLMs to carry out their congressionally designated "affirmative responsibility" to protect air quality related values in the Class I areas they manage. The SIPs will influence visibility in Class I areas for the next decade. EPA underscored the value of FLM involvement in the SIP development process in the preamble to the Regional Haze rule⁴:

*As discussed in the proposed rule, **state consultation with FLMs is a critical part of the development of quality SIPs.** . . . We proposed to add a requirement that such consultation on SIPs and progress reports **occur early enough to allow the state time for full consideration of FLM input,** but no fewer than 60 days prior to a public hearing or other public comment opportunity. [Emphasis added.]*

EPA further elaborated that FLM participation in the RPO is not sufficient to address the FLM consultation opportunity:

*Finally, some multi-state organization commenters asked for confirmation that state and FLM participation in the RPO process would continue to meet the consultation requirement. **The EPA does not agree that such participation would suffice for consultation because being informed of the technical work performed by the multi-state organizations is not the same as the FLMs being substantively involved in regulatory decisions a state makes on what controls to require based on that work (i.e., the decisions on the longterm strategy on which public comment will be sought prior to submission to the EPA in the form of a SIP revision).** Furthermore, the objective of these provisions is not to achieve FLM consultation with states on setting RPGs, since that process is largely mechanical in nature because RPGs are to be based on the long-term*

⁴ Protection of Visibility: Amendments to Requirements for State Plans, Final Rule, 82 Fed. Reg. 3078 (January 10, 2017).

strategy and do not involve any additional policy decisions. We note that a standing invitation for FLM participation in the work performed by multi-state organizations may be part of the procedures that a SIP provides for continuing consultation between the state and the FLM, as required by 40 CFR 51.308(i)(4).
[Emphasis added.]

Response:

Georgia EPD has been engaged with the FLMs for multiple years as part of the VISTAS project and received detailed feedback from the NPS and other FLMs throughout 2021 (see Appendix F). We feel that substantive engagement has occurred to meaningfully inform our long-term strategy. Also, Georgia EPD understands that the NPS would have preferred to have their comments addressed prior to putting our Regional Haze SIP out for public comment. However, Georgia EPD did not have the time to address the NPS comments prior to posting the SIP for public comment due to the timeline set forth by EPA. On April 7, 2022, the Environmental Protection Agency (EPA) made the following announcement related to Visibility and Regional Haze:

“On April 7, 2022, EPA announced its intent to make findings that certain states have failed to submit regional haze implementation plans for the second planning period. The EPA intends to issue these findings by August 31, 2022. States wishing to avoid inclusion in the Findings of Failure to Submit should submit their second planning period SIPs by August 15, 2022.”

Georgia EPD fully intends to submit our Regional Haze SIP by the above deadline to avoid receiving a Finding of Failure to Submit. All comments will be taken into consideration and any appropriate revisions to the Regional Haze SIP will be incorporated into the final SIP submittal. All responses to comments will be included in Appendix H-4.

2.2 Exclusion of NO_x Comment:

Georgia EPD received a comment from the National Park Service (NPS) regarding the exclusion of NO_x from SIP Reasonable Progress determination. Commenter states that Georgia used the modeling analysis results to conclude that evaluation of NO_x emission sources is not necessary in this round of regional haze planning. This conclusion was initially based on the VISTAS modeling, which used a 2011 base year. In the draft SIP, Georgia compared the 2011 VISTAS modeling with an EPA modeling study that used a 2016 base year to support the 2011 VISTAS modeling conclusions:

EPA's September 2019 modeling study, also shows that sulfates will continue to be the prevailing visibility impairing species in 2028 at VISTAS Class I areas and is consistent with a similar analysis of baseline conditions . . . These results corroborate the findings of the VISTAS study and indicate that focusing resources on the control of SO₂ is appropriate for this round of regional haze planning.

Based on this conclusion, GA EPD did not evaluate or consider NO_x control technologies in their four-factor analyses and reasonable progress determinations.

In addition, NPS states that Ammonium nitrate from NOx emissions is a significant anthropogenic haze causing pollutant. Over the past ten years the importance of ammonium nitrate on the 20% most-impaired days has increased for many Class I areas in the VISTAS region, including at Great Smoky Mountains NP. As SO₂ emissions decline and the seasonality of most-impaired days shifts, NOx emissions are increasingly important for many VISTAS Class I areas.

The NPS recommends that Georgia acknowledge discrepancies between model-based predictions and recent monitoring data in their source selection process and consider NOx emission reduction opportunities relevant to addressing regional haze during this planning period. Reducing NOx emissions would have additional regional co-benefits for ozone and nitrogen deposition. While much of the region's NOx emissions come from mobile sources, emissions inventories also show a significant quantity of NOx emissions from point sources in Georgia that could be addressed under the regional haze program. Finally, the NPS recommends that GA EPD rely on the weight-of-evidence and consider the monitoring information in addition to the modeling.

Response:

For a 2011 modeling base year, EPA's modeling guidance requires the species-specific Relative Response Factors be applied to the 2009 – 2013 IMPROVE measurements when projecting RPGs for 2028. EPA's modeling guidance does not allow the use of more recent IMPROVE measurements (e.g., 2015-2019) in combination with a 2011 modeling base year. The modeling contained in Georgia's Regional Haze SIP followed the detailed procedures contained in EPA's modeling guidance for determining speciated light extinction values in 2028. In addition to modeling, GA EPD examined the recent monitoring data. NOx contributions to visibility impairment can vary from year to year. According to Figure 7-44, the NOx contributions to visibility impairment at the Cohutta Wilderness Area have increased from 1.7% in 2001 to 5.4% in 2019 on the most impaired days. According to Figure 7-45, the NOx contributions to visibility impairment at the Okefenokee National Wilderness Area have increased from 4.2% in 2000 to 5.9% in 2019 on the most impaired days. Unfortunately, monitoring data does not provide information on source contributions (e.g., mobile vs. point sources) or the benefits that would result if NOx emissions were to be reduced.

Consistent with the Regional Haze Rule, Georgia followed a process (documented in Sections 7.5 and 7.6) to narrow the list of sources required to perform a four-factor analysis. In so doing, Georgia EPD relied on the latest available tools (i.e., AoI and PSAT) to understand source impacts on visibility impairment in each Class I area. Both SO₂/sulfate and NOx/nitrate were evaluated in the source section approach. However, no NOx/nitrate sources were selected for a reasonable progress analysis because no facilities exceeded the NOx/nitrate screening thresholds.

PSAT source apportionment modeling clearly demonstrates that contributions from Georgia's point source NOx emissions is insignificant and additional NOx controls would not be reasonable. Specifically, the PSAT source apportionment modeling demonstrates that NOx emissions from all point sources (EGU + non-EGU) in Georgia contributes less than 1% of the total sulfate + nitrate light extinction at all Class I areas. Therefore, NOx emissions from individual EGU and non-EGU point sources in Georgia will contribute even smaller percentages to the total sulfate + nitrate light extinction. In addition, the PSAT results indicate that, on average, the reduction of one ton of SO₂ will have the equivalent benefit of reducing 30.7 tons of NOx at Cohutta Wilderness Area, 19.0

tons of NO_x at the Okefenokee National Wilderness Area, and 19.2 tons of NO_x at the Wolf Island National Wilderness Area.

Although sulfates have decreased and nitrates have slightly increased, sulfates are still the dominant visibility impairing species at the Cohutta Wilderness Area, Okefenokee National Wilderness Area, and Wolf Island National Wilderness Area. If sulfates continue to decrease and nitrates continue to increase in the future, it may be appropriate to consider NO_x emission sources for reasonable progress analyses in Georgia's Regional Haze SIP for future planning periods.

2.3 Source Selection Comment:

Georgia EPD received a comment from NPS regarding source selection. Commenter states that when identifying emission sources to evaluate for haze reduction opportunities, VISTAS and Georgia evaluated the potential visibility effects of individual facilities on Class I areas using extinction weighted residence times (EWRT) combined with emissions over distance (Q/d) for individual facilities in an area of influence analysis (AOI). Despite NPS concerns regarding 2028 projections, we find this approach is more robust than a simple emissions divided by distance (Q/d) approach, as it accounts for meteorology on the 20% most-impaired days.

Our source selection concern stems from the screening thresholds used that resulted in the selection of very few sources for analysis (3 in Georgia) and offers less protection for the more-impacted Class I areas. We advised VISTAS states of this concern more than two years ago, in April 2020. For comparison, Idaho, which reported roughly one tenth of the point source SO₂ and NO_x emissions in 2017, selected three times as many sources as Georgia to consider for reasonable progress. The Georgia source selection process was less rigorous than many states with far fewer emissions.

We recommend that Georgia reconsider their source selection decisions using the underlying VISTAS EWRT*Q/d analysis and applying different thresholds. As we shared during our consultation meeting, this approach identifies 6 facilities that the NPS recommends for four-factor analysis. Of these sources Georgia has already required four-factor analysis of SO₂ emission reduction opportunities for GA Power Company – Bowen, Brunswick Cellulose LLC, and International Paper Savannah. Facility specific recommendations are summarized below and detailed in the attached technical feedback document and workbooks.

- Georgia Power Co. Plants Bowen and Wansley
 - Evaluate ways to optimize current pollution control equipment
 - Establish SO₂ and NO_x emission limits reflective of the existing control capabilities
- Georgia Power Co. Plant Scherer
 - Analyze options for improving SCR performance to reduce NO_x emissions
- International Paper Co. Temple Inland
 - Conduct four-factor analyses for SO₂ and NO_x emissions
- Brunswick Cellulose LLC
 - Conduct a four-factor analysis for NO_x emissions
- International Paper Co. Savannah
 - Update the four-factor analyses to include NO_x emissions

Response:

Georgia EPD appreciates the analyses the NPS prepared using the Q/d*EWRT values generated by VISTAS. We agree that this approach is superior to the Q/d approach which does not account for meteorology or properly weight SO₂ vs. NO_x impacts on visibility impairment. At some locations, 1 ton of SO₂ reduction can have anywhere from 3.7 to more than 70 times the impact on visibility impairment as 1 ton of NO_x reduction (see Section 7.10 and Table 7-41).

Georgia EPD reviewed the NPS analysis and, although it is informative, has taken a different approach to source selection. This approach does recognize the significant progress Georgia has and is expected to achieve in the future toward improving visibility in its Class I areas which is consistent with EPA's August 20, 2019 guidance. Regarding the selection of sources for analysis (Step 3), EPA states:

Page 5, Table 1: Select the emission sources for which an analysis of emission control measures will be completed in the second implementation period and explain the bases for these selections. For the purpose of this source selection step, a state may consider estimated visibility impacts (or surrogate metrics for visibility impacts), the four statutory factors, the five required factors listed in section 51.308(f)(2)(iv), and other factors that are reasonable to consider.

Page 9: "A key flexibility of the regional haze program is that a state is not required to evaluate all sources of emissions in each implementation period. Instead, a state may reasonably select a set of sources for an analysis of control measures. The guidance that an analysis of control measures is not required for every source in each implementation period is based on CAA section 169A(b)(2), which requires each SIP to contain emission limits, schedules of compliance, and other measures as may be necessary to make reasonable progress, but ...does not provide direction regarding the particular sources or source categories to which such emission limits, etc., must apply. Selecting a set of sources for analysis of control measures in each implementation period is also consistent with the Regional Haze Rule, which sets up an iterative planning process and anticipates that a state may not need to analyze control measures for all its sources in a given SIP revision. Specifically, section 51.308(f)(2)(i) of the Regional Haze Rule requires a SIP to include a description of the criteria the state has used to determine the sources or groups of sources it evaluated for potential controls. Accordingly, it is reasonable and permissible for a state to distribute its own analytical work, and the compliance expenditures of source owners, over time by addressing some sources in the second implementation period and other sources in later periods. For the sources that are not selected for an analysis of control measures for purposes of the second implementation period, it may be appropriate for a state to consider whether measures for such sources are necessary to make reasonable progress in later implementation periods."

All of the sources identified by NPS were evaluated by Georgia EPD as part of our screening approach to identify the sources with the largest visibility impacts at Class I areas in Georgia and neighboring states. Consistent with the Regional Haze Rule, Georgia followed a process

(documented in Sections 7.5 and 7.6) to narrow the list of sources required to perform a four-factor analysis. In so doing, Georgia EPD relied on the latest available tools (i.e., AoI and PSAT) to understand source impacts on visibility impairment in each Class I area.

Georgia Power Co. Plant Bowen

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂ facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate. Additional details can be found in Appendix E-7. For SO₂, Georgia EPD agrees with the four-factor analysis provided by Plant Bowen.

Georgia Power Co. Plant Wansley

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were below our screening thresholds for both sulfate and nitrate. Additional details can be found in Section 7.6.4.

Georgia Power Co. Plant Scherer

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were below our screening thresholds for both sulfate and nitrate.

International Paper Co. Temple Inland

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that NO_x and SO₂ facility contributions are below our screening thresholds for both sulfate and nitrate. Additional details can be found in Appendix E-7a.

Brunswick Cellulose LLC

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂ facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate. Additional details can be found in Appendix E-7a.

International Paper Co. Savannah

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂

facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate. Additional details can be found in Appendix E-7a.

2.4 Source Selection Comment:

Georgia EPD received a comment from NPS regarding source selection. Commenter states that the NPS recommends that Georgia evaluate options to optimize current pollution control equipment efficiency for the Wansley units and establish emission limits for SO₂ and NO_x that reflect the capabilities of the current emission controls, or Make any anticipated shutdowns scheduled to occur prior to 2028 federally enforceable through the regional haze SIP.

Response:

Georgia EPD followed EPA guidance and our methodology for source selection and this facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were below our screening thresholds for both sulfate and nitrate. Therefore, Georgia EPD did not evaluate options to optimize current pollution control equipment efficiency for Plant Wansley Units 1 and 2. Section 7.6.4 discusses the selection of sources for reasonable progress evaluation. This facility is 156.8 km from the Cohutta Wilderness Area and the AoI sulfate contribution is 1.05%. SO₂ emissions used in the AoI analysis was 4,856.0 tpy. The SO₂ emissions for the past three years were 2,720.78 tpy (2017), 2,134.03 tpy (2018), and 1,656.01 tpy (2019) and the average over this period was 2,170.27 tpy. Due to Georgia Power's plans to shift from coal to natural gas and renewable energy, these emissions rates are more reasonable for future operations of this facility. Plant Wansley has not become subject to any new emissions limits or installed any new controls during this time period. Scaling the AoI sulfate contribution of 1.05% by the ratio of current to 2028 SO₂ emissions (2,170.27/4,856.0) results in a revised AoI sulfate contribution of 0.47%; therefore, this facility will be screened out due to insignificant visibility impacts at the Cohutta Wilderness Area.

In addition, Georgia Power submitted, within their 2022 Integrated Resource Plan, a strategic plan for the incremental retirement of the Company's remaining coal units and corresponding transition to cleaner and more economical resources. Continuing to invest in these units for the long-term increases the risk of new environmental compliance costs. In addition, low natural gas prices, modest load growth, and the growth of renewable resources will increase the economic pressure on the coal units. As stated in the public docket, Georgia Power requested that the Public Service Commission (PSC) approve the retirement of Plant Wansley Units 1 and 2 by August 31, 2022. On July 21, 2022, the PSC voted to approve the retirement of the Plant Wansley Units 1 and 2 by August 31, 2022. Georgia Power will submit retirement documentation for these units and request that the Title V operating permit be revoked.

2.5 Class I Areas Addressed in the SIP Comment:

Georgia EPD received a comment from NPS regarding Class I areas addressed in SIP. Commenter recommends that GA EPD update the SIP and recognize Great Smoky Mountains National Park as one of the areas affected by Georgia emissions. Chapter seven of the SIP addresses Georgia facility impacts to the in-state Class I areas and out-of-state Class I areas where the individual facility PSAT contribution exceeds 1% of the total EGU plus non-EGU impact. The NPS recommends that GA EPD expand the tables in this section to include the modeled impacts from

Georgia facilities in all VISTAS Class I areas. By omitting emissions below the 1% threshold, chapter seven does not fully disclose the impact of Georgia emission sources in all Class I areas, including Great Smoky Mountains National Park, which is affected by Georgia emissions.

The VISTAS PSAT and AOI analyses indicate that among VISTAS region states, Georgia emissions and facilities impact Great Smoky Mountains National Park. The NPS has identified five Georgia facilities as contributing to the top 80% of visibility impairment at Great Smoky Mountains National Park based on either the AOI or Q/d analysis results. Based on the cumulative AOI rankings, each of the facilities recommended for analysis are among the top ten most-impacting Georgia facilities across VISTAS Class I areas. This highlights that NPS recommendations capture the most important Georgia sources for consideration.

Response:

Georgia EPD appreciates the NPS interest in the Great Smoky Mountains National Park. The NPS has identified five Georgia facilities as contributing to the top 80% of visibility impairment at Great Smoky Mountains National Park based on either the AOI or Q/d analysis results. Georgia EPD followed EPA guidance and our methodology for source selection to determine which facilities to select for a four-factor analysis. Georgia EPD's approach (documented in Sections 7.5 and 7.6) relied on the latest available tools (i.e., AoI and PSAT) to understand source impacts on visibility impairment in the Great Smoky Mountains National Park. Both SO₂/sulfate and NO_x/nitrate were evaluated; however, no facilities exceeded the SO₂/sulfate or NO_x/nitrate screening thresholds at Great Smoky Mountains National Park. Georgia EPD does not feel it is appropriate to expand the tables in Chapter 7 of the SIP to addresses Georgia facility impacts to out-of-state Class I areas where the individual facility PSAT contribution is less than 1% of the total EGU plus non-EGU impact. However, this information can be found in Appendix E-7a and Appendix E-7b.

2.6 Address In-State Contributions Comment:

Georgia EPD received a comment from NPS regarding requirement to address in-state contributions to haze. Commenter states that Section 7.4 of the draft SIP presents the modeling source apportionment results. This section states that "emissions from other regional planning organizations (MANE-VU, LADCO, and CENRAP) generally have higher contributions to 2028 visibility impairment at mandatory federal Class I areas in VISTAS than the emissions from the home state." This point was reiterated by GA EPD during the NPS/GA June 14, 2022, consultation meeting. During this meeting GA EPD staff reiterated that that based on the source attribution results, out of state contributions to haze are far more significant than Georgia contributions. GA EPD concluded that it is therefore "reasonable for Georgia to select fewer sources than other states."

The NPS does not agree with this rationale for limiting source selection. Reasonable progress provisions direct each state to consider a reasonable subset of sources within its own boundaries and evaluate those sources in the context of the four statutory factors. Declining to select sources because there are larger contributions from out-of-state regions unnecessarily limits achievable progress. The cumulative benefit of multiple emission reductions will be needed to continue progress toward unimpaired visibility in Class I areas. EPA underscores the importance of focusing on in-state opportunities to reduce emissions in section 2.1 of the July 2021 Clarification Memo:

In applying a source selection methodology, states should focus on the in-state contribution to visibility impairment and not decline to select sources based on the fact that there are larger out-of-state contributors. What is reasonable will depend on the specific circumstances. We generally think that a threshold that captures only a small portion of a state's contribution to visibility impairment in Class I areas is more likely to be unreasonable. Similarly, a threshold that excludes a state's largest visibility impairing sources from selection is more likely to be unreasonable.

Further, the Georgia SIP conclusion referenced above compares the impact from a single state to the impact of regional planning organization (RPO) groupings of 6–12 states. The impact of combined emissions from an RPO may often exceed that of a single state. This does not diminish the states responsibility to address in-state emissions in the SIP. Based on SO₂ and NO_x point source emissions reported in the 2017 NEI, Georgia is ranked 17th for the highest SO₂ plus NO_x emissions amongst all U.S. states, with 63,925 tons/year of NO_x and 32,569 tons/year of SO₂ emissions statewide. This highlights that the emissions from Georgia point sources are significant. (The 2028 inventories reported in Appendix B-1a do not project reductions in current emissions from Georgia point sources.)

Response:

Georgia EPD evaluated PSAT source apportionment results for ten individual VISTAS states and groups of states in neighboring Regional Planning Organizations (MANE-VU, LADCO, and CENRAP). In addition, PSAT source apportionment results were evaluated for 87 individual facilities (located in both VISTAS and non-VISTAS states) to determine their contribution to visibility impairment in all Class I areas in the Eastern U.S. Based on Georgia EPD's analysis of the largest contributors to visibility impairment, 17 facilities were identified to evaluate additional controls for reasonable progress for Georgia's Class I areas. Table 7-29 contains the Georgia facilities selected for a four-factor analysis, Table 7-30 contains the VISTAS facilities (not including Georgia) selected for a four-factor analysis, and Table 7-31 contains the non-VISTAS facilities selected for a four-factor analysis. Georgia EPD feels that the number of total sources (17) and Georgia sources (3) that were selected is reasonable since they will address a significant portion of Georgia's contribution to visibility impairment in Class I areas and includes Georgia's largest visibility impairing sources.

2.7 Decision-Making Criteria for Reasonable Progress Comment:

Georgia EPD received a comment from NPS regarding decision-making criteria for reasonable progress determinations/establishment of a cost threshold. Commenter states that GA EPD could improve the draft SIP by more fully documenting the criteria relied upon to make the final reasonable progress (RP) determinations, as required under the regional haze (RH) regulations.⁵

Georgia completed a SO₂ four factor analysis for three facilities, Georgia Power Company's Plant Bowen, Brunswick Cellulose LLC, and International Paper Savannah Plant. The draft SIP

⁵ 40 CFR § 51.308 (f)(2)(i): The State must include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy. [Emphasis added]

indicates that the costs of compliance for additional SO₂ emission controls are unreasonable for both the facilities evaluated. However, GA EPD does not identify the measures, criteria, or thresholds used to make these determinations in the draft SIP.⁶

The NPS recommends that the SIP document the full rationale upon which the reasonable progress decisions are based. Cost evaluation—which is a statutory requirement—entails more than estimating control costs for an individual source or unit (the analytical component of a cost analysis). It also requires the state to document *why* each of the four-factors, including the costs of controls, would or would not be considered reasonable for the source in question. In their 2019 regional haze guidance, EPA recommends that a useful metric in making such determinations is the estimated cost per ton of pollutant reduced.⁷ EPA further elaborates in the 2019 Guidance that:

When the cost/ton of a possible measure is within the range of the cost/ton values that have been incurred multiple times by sources of similar type to meet regional haze requirements or any other CAA requirement, this weighs in favor of concluding that the cost of compliance is not an obstacle to the measure being considered necessary to make reasonable progress. . . . Where the cost/ton of a possible measure exceeds the historical range of cost/ton values, we recommend that the state not automatically conclude that the cost of compliance by itself makes the measure not necessary to make reasonable progress.

Many states have identified a cost-effectiveness threshold in their draft proposals in this round of regional haze planning. Some of the controls evaluated by Georgia are well within these cost-effectiveness ranges. For example, other states have proposed the following cost/ton thresholds:

- \$5,000/ton in Arkansas (EGUs) and Texas
- \$6,100/ton in Idaho
- \$10,000/ton in Colorado and Oregon
- A range from \$5,000 to \$10,000/ton in Nevada
- A range from \$4,000 to \$6,500/ton in Arizona

Finally, for International Paper Savannah and Brunswick Cellulose, GA EPD concluded that based on the “*fact that the state of Georgia is well below the glidepath for the 2018-2028 period indicates that requiring additional SO₂ emission control devices for the sources would not be reasonable for purposes of making further progress in reducing regional haze.*” The NPS notes that visibility benefit and visibility projections relative to the URP *alone* are not an appropriate basis for rejecting otherwise cost-effective controls. EPA covered this topic in their July 8, 2021, Clarification Memo (§5.4):

The URP is a planning metric used to gauge the amount of progress made thus far and the amount left to make. It is not based on consideration of the four statutory

⁶ For Plant Bowen, GA EPD concluded “additional SO₂ emission reduction measures identified were determined to result in unreasonable costs of compliance.” For Brunswick Cellulose, GA EPD concluded “In summary, the additional SO₂ emission reduction measures identified were determined to result in unreasonable costs of compliance except for the replacement of No. 6 fuel oil and TDF with natural gas in the No. 4 Power Boiler.”

⁷ 2019 EPA Guidance on Regional Haze State Implementation Plans for the Second Implementation Period, Part II, Step 5—Decisions on what control measures are necessary to make reasonable progress.

factors and, therefore, cannot answer the question of whether the amount of progress made in any particular implementation period is “reasonable progress.” This concept was explained in the RHR preamble (82 FR at 3099). Therefore, states must select a reasonable number of sources and evaluate and determine emission reduction measures that are necessary to make reasonable progress by considering the four statutory factors. [emphasis added]

The preamble to the Regional Haze Rule referenced in the EPA guidance further discusses the relationship between the URP, visibility improvement, and the four statutory factors. From the preamble:

*The commenter’s second suggestion, that states should be able to reject “costly” control measures if the RPG for the most impaired days is not “meaningfully” different than current visibility conditions, **is counterintuitive and at odds with the purpose of the visibility program.** In this situation, the state should take a second look to see whether more effective controls or additional measures are available and reasonable. Whether the state takes this second look or not, it may not abandon the controls it has already determined are reasonable based on the four factors. **Regional haze is visibility impairment that is caused by the emission of air pollutants from numerous sources located over a wide geographic area. At any given Class I area, hundreds or even thousands of individual sources may contribute to regional haze. Thus, it would not be appropriate for a state to reject a control measure (or measures) because its effect on the RPG is subjectively assessed as not “meaningful.”** Also, for Class I areas where visibility conditions are considerably worse than natural conditions because of continuing anthropogenic impairment from numerous sources, the logarithmic nature of the deciview index makes the effect of a control measure on the value of the RPG less than its effect would be if visibility conditions at the Class I area were better. Thus, if a state could reject a control measure based on its individual effect on the RPG, the state would be more likely to reject those measures that are necessary to make reasonable progress at the dirtiest Class I areas, which would thwart Congress’ national goal. [Emphasis added.]*

We recommend that GA EPD establish a cost threshold to support the reasonable progress determinations and require all technically feasible, cost-effective controls identified through four-factor analyses in this planning period.

Response:

Georgia EPD did not set a specific cost per ton threshold, but rather analyzed each facility to determine whether a given control measure is cost-effective based on the EPA’s Control Cost Manual, the 2019 Regional Haze Guidance, and a historical range of cost/ton values. Specifically, Georgia EPD reviewed an Excel spreadsheet assembled by Arkansas DEQ that compared the cost of compliance for SO₂ and NO_x in dollars per ton for various types of industrial emission units (e.g., EGU Boiler, Industrial Boiler, Kiln, Smelter, All Non-EGU). The spreadsheet was updated with the addition of VISTAS data (Appendix G-4) and presents the maximum and minimum

cost/ton and various statistical percentile values (98th, 95th, 90th, 85th, 80th, 75th, 70th, and 65th). While Georgia EPD did not pick a specific cost/ton threshold, it should be noted that in all cases where Georgia EPD determined that a control cost was “not cost effective” or “cost effectiveness was not reasonable”, the cost was above the 98th percentile values listed in the Arkansas DEQ spreadsheet.

Georgia EPD also noted that substantial reductions in SO₂ and NO_x emissions occurred in Georgia and other VISTAS states between 2008 and 2020. Those reductions were not part of the four factors that were considered for each control option, but Georgia EPD continues to believe that the decrease in emissions provides additional weight of evidence for the use of a lower cost threshold compared to other parts of the country. The following table presents the SO₂ and NO_x emissions reductions between 2008 and 2020 for the VISTAS states.

VISTAS States, Change in SO ₂ and NO _x Emissions, 2008 to 2020						
State	SO ₂ Emissions (tons)		NO _x Emissions (tons)		% Change	
	2008	2020	2008	2020	SO ₂ Emissions	NO _x Emissions
AL	357,547	3,278	112,614	13,753	-99.1%	-87.8%
FL	263,952	15,259	153,466	29,632	-94.2%	-80.7%
GA	514,539	6,940	105,894	13,328	-98.7%	-87.4%
KY	344,356	37,977	157,847	28,605	-89.0%	-81.9%
MS	65,236	2,629	41,918	13,237	-96.0%	-68.4%
NC	227,030	9,823	54,652	21,502	-95.7%	-60.7%
SC	157,618	4,962	42,916	8,056	-96.9%	-81.2%
TN	208,069	9,349	85,543	6,849	-95.5%	-92.0%
VA	125,985	1,507	43,017	7,068	-98.8%	-83.6%
WV	301,574	31,787	97,331	28,474	-89.5%	-70.7%

Georgia EPD cannot assess the reasons that specific cost thresholds were selected by the other states listed above. However, the overall VISTAS SO₂ reductions were much higher (i.e., the VISTAS states started with much higher emissions), and we believe that the comparison supports our conclusion above, that a lower cost threshold is reasonable for Georgia.

2.8 Plant Bowen Four-Factor Analysis Comment:

Georgia EPD received a comment from NPS regarding the four-factor analysis for Plant Bowen. Commenter states that the SIP four-factor analysis for Plant Bowen evaluated fuel switching to lower sulfur coal and replacement of the existing wet scrubbers with dry FGDs. According to the GA EPD:

The emission sources at Georgia Power – Plant Bowen (Plant Bowen) evaluated in the submitted Four Factor Analysis report are already subject to various stringent emission limits, and emissions reductions have already been made at the facility. Currently, the coal-fired electric generating units (EGUs), Units 1-4, must burn <3% sulfur coal and are fully controlled for SO₂ with FGD

scrubbers. All units are subject to the Georgia Multi-pollutant Rule (sss), which requires the scrubbers to be operated with an average 95% removal rate or greater, and scrubber operation is further optimized for compliance with all applicable regulations, including the Mercury and Air Toxics Standard (MATS), and Effluent Limitation Guidelines (ELG). Compared to emissions preceding installation of the scrubber, Plant Bowen has reduced annual SO₂ emissions from Units 1-4 by over 96%.

Plant Bowen evaluated whether additional emissions controls for SO₂ are feasible for Units 1-4.

Georgia did not evaluate or consider upgrades or optimization of the existing wet scrubber systems.

Response:

SO₂ emissions rates have historically varied for Plant Bowen even with the addition of the wet scrubbers in the late 2000's. Plant Bowen is permitted to burn any coal that has less than 3% sulfur by weight as described in their Title V permit. The overlying sulfur limit in Georgia Rule (g) ultimately gives the facility flexibility to choose different coals if they meet the sulfur limits set forth in their Title V permit. In 2014, Plant Bowen started transitioning from Central Appalachian (CAPP) coal to Illinois Basin (IB) coal which has a higher sulfur content. This resulted in increased emissions after the transition which occurred in the 2014/2015 timeframe that the NPS noted in Figure 1 and 2 in their comments. In addition, Plant Bowen has moved from being a base load facility where load and emissions are very constant to more of a load following/peaking facility. This change in operation resulted in higher emissions since the boilers are increasing or decreasing load depending on the demand. Emission rates will be higher with this variability compared to a steady-state condition.

The concept of efficiency improvements for the existing scrubbers as another potential control option has been discussed and is encouraged by EPA's most recent 2021 guidance memo. Plant Bowen's Units 1-4 are equipped with Chiyoda Jet Bubbling Reactor (JBR) wet FGD scrubbers, in which the flue gas from the boiler flows down a large set of sparger tubes submerged into a limestone slurry in the scrubber vessel. The flue gas is forced through the slurry bath where SO₂ in the flue gas reacts with the limestone to form gypsum, effectively removing SO₂ from the flue gas stream before it exits the stack. The scrubbers are also critical to mercury control and MATS compliance, since the scrubber can capture mercury in the scrubber liquid or reagent, depending on how it is operated. For Plant Bowen's Units 1-4, scrubber operating parameters are optimized based on Georgia Power's operational experience to maintain SO₂ removal compliance, mercury removal compliance, and wastewater treatment requirements for both mercury and selenium, while balancing the increased equipment wear and scrubber vessel scaling experienced at higher submergence levels and pH levels. The 2019 average SO₂ removal rate was 96.3% for Units 1-4 and reflects the level of oxidation needed to comply with all applicable regulatory requirements. Georgia EPD is not proposing any additional scrubber upgrades in the Regional Haze SIP.

2.9 Optimization of Controls at Plant Wansley Comment:

Georgia EPD received a comment from NPS regarding optimization of existing control equipment at the Wansley Plant. Commenter stated the Wansley Plant is equipped with control equipment

typically considered top tier emission controls (i.e., wet FGD scrubbers for SO₂ and SCR for NO_x). However, NPS review of 2010–2021 CAMD emissions data indicates that SO₂ and NO_x emission rates have been generally increasing in recent years.

Unless a federally enforceable shutdown is required by 2028, we request that GA EPD establish emission limits for SO₂ and NO_x that reflect the capabilities of the emission controls currently installed on the Wansley units. For example, the CAMD data suggest that the Wansley EGUs could achieve a SO₂ emission rate of 0.04–0.07 lb/mmBtu and a NO_x emission rate of 0.06–0.07 lb/mmBtu.

Response:

Georgia EPD followed EPA guidance and our methodology for source selection, and this facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were below our screening thresholds for both sulfate and nitrate. Therefore, Georgia EPD did not evaluate options to optimize current pollution control equipment efficiency for Plant Wansley Units 1 and 2.

2.10 SCR Controls and NO_x Emissions at Plant Scherer Comment:

Georgia EPD received a comment from NPS regarding the evaluation of the SCR System and reduction of NO_x emissions for Plant Scherer. Commenter states Georgia screened Plant Scherer from four-factor analyses. The NPS review of 2010 – 2021 CAMD emissions data indicates that SO₂ emissions are well-controlled but that NO_x control efficiency is generally low for typical SCR systems.

SO₂ Analysis

The scrubbers on units 1–3 are operating at 97%–98% control efficiency on low-sulfur PRB coal and achieving average annual emission rates below 0.02 lb/mmBtu. NPS review finds that Scherer Units 1–3 are very effectively controlled for SO₂ emissions.

NO_x Analysis

The SCR systems on Units 1–3 are operating at 53%–74% control efficiency and achieving average annual emission rates of 0.12–0.15 lb/mmBtu. NPS review finds that Scherer Units 1–3 are not effectively controlled for NO_x emissions. According to the CAMD database, the SCR units were installed between 2010 and 2013. The EPA Control Cost Manual (CCM) Chapter on SCR notes that modern SCR systems on “*commercial coal-, oil-, and natural gas-fired SCR systems are often designed to meet control targets of over 90 percent*” (down to 0.04 lb/MMBtu). This suggest that the Scherer SCR systems have low performance in comparison to other similar units. The NPS recommends that GA EPD require an evaluation of the SCR systems for the Scherer units and investigate ways to improve performance and reduce NO_x emissions.

Response:

Georgia EPD followed EPA guidance and our methodology for source selection, and this facility was not selected for a four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were below our screening thresholds for both sulfate and nitrate. As a result, Georgia EPD did not

perform an evaluation of the SCR systems for the Scherer units or investigate ways to improve performance and reduce NO_x emissions.

2.11 Recommendations for Brunswick Cellulose Comment:

Georgia EPD received a comment from NPS regarding recommendations for Brunswick Cellulose. Commenter states the proposed fuel switch will address SO₂ emissions but will not address NO_x emissions. The NPS recommends that Georgia conduct a four-factor analysis for NO_x emissions from this source.

The NPS recommends revising the URP language in the draft SIP and updating the four-factor analyses to consider NO_x emissions.

Response:

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂ facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate.

The URP language in Section 7.8.3 of the SIP has been removed.

2.12 Recommendations for International Paper Savannah Comment:

Georgia EPD received a comment from NPS regarding recommendations for International Paper Savannah. Commenter states a fuel switch for power boiler 13 will address SO₂ emissions from this unit—it will not address NO_x emissions. The NPS recommends that GA EPD require or conduct a four-factor analysis for NO_x emissions from this facility.

The NPS recommends revising the URP language in the draft SIP and updating the four-factor analyses to consider NO_x emissions.

Response:

Georgia EPD followed EPA guidance and our methodology for source selection. This facility was selected for a SO₂ four-factor analysis but was not selected for a NO_x four-factor analysis. NO_x and SO₂ facility contributions to visibility impairment on the 20% most impaired days at Class I areas in Georgia and neighboring states were evaluated with PSAT. PSAT results show that SO₂ facility contributions are above our screening threshold for sulfate, but NO_x facility contributions are below our screening threshold for nitrate.

The URP language in Section 7.8.1 of the SIP has been removed.