



SC DEPARTMENT *of* **ENVIRONMENTAL SERVICES**

Bureau of Air Quality Response to Comments on Air Quality

International Paper - Georgetown Mill Georgetown, Georgetown County, South Carolina Permit Number CP-50000040 v1.0

The following is the South Carolina Department of Environmental Services, Bureau of Air Quality's (SCDES or Department) response to the comments made during the formal comment period held April 26, 2024, through May 28, 2024, regarding the draft synthetic minor construction permit for International Paper - Georgetown Mill.

The written Department Decision, construction permit, statement of basis, this response document, and a letter of notification are located for viewing at the SCDES Columbia office located at 2600 Bull Street, Columbia SC 29201, and on our webpage at www.des.sc.gov/programs/bureau-air-quality/air-quality-department-decisions.

Hard copies of all the above-listed documents and written comments received can be requested by contacting our Freedom of Information Office at (803) 898-3882.

The following is a summary of the changes to the draft permit taken by the Department based on comments received:

- The omitted (sulfur dioxide) SO₂ limits and associated averaging times have been added to the permit as follows:
 - The SO₂ emission limit of less than 130 parts per million (ppm) at 8% O₂ dry volume, based on an annual average, has been added to the project description and Conditions B.3 and B.4.
 - The maximum allowable SO₂ emissions limit of 2.3 lb/million Btu (pounds per million British thermal units) input, for the Power Boilers Nos. 1 and 2, based on a 3-hour rolling average, has been added to the project description and as a new condition, B.5. The condition includes associated monitoring, recordkeeping, and reporting requirements.
- Averaging times have been added to the other SO₂ emission limits for the Power Boilers Nos. 1 and 2, where there were not any previously. The averaging time, 3-

hour rolling average, has been added to both of the following limits in the project description:

- 340 ng/J (nanogram per Joule) heat input (0.80 lb/million Btu) derived from liquid fossil fuel or liquid fossil fuel and wood residue
- 520 ng/J heat input (1.2 lb/million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue

The averaging time had already been included in Condition B.7. Additionally, “SO₂ less than or equal to” has been included in front of each of these limits for clarification.

- The statement of basis has also been revised to include the omitted limits and averaging times, in addition to the adding the language “SO₂ less than or equal to” for clarity, as described above.

Omitted Limits

There was a comment noting emission limits that were omitted from the public noticed draft construction permit but were included in the Regional Haze State Implementation Plan for South Carolina Class I Federal Areas revision submitted to the U.S. Environmental Protection Agency (“EPA”) on March 4, 2022 (Regional Haze SIP Revision).

Response: The omitted limits were an oversight. The limits mentioned in the comments have been added to the construction permit. The changes to the construction permit and statement of basis (SOB) are detailed above.

Averaging Times

There was a comment that all limits for the Power Boilers should be corrected by specifying the averaging times that apply to each limit, including the omitted limit.

Response: The averaging times have been added to each of the limits for the power boilers, including the omitted limit that was added to the construction permit. The changes to the construction permit and statement of basis are detailed above.

Comments on Regional Haze State Implementation Plan (SIP)

The remainder of the comments pertained to the content and conclusions of the Regional Haze SIP Revision. The comments asserted that due to claimed flaws in the four-factor analysis underlying the Regional Haze SIP Revision, the draft permit’s emission limits were

not sufficient to satisfy regional haze requirements, and that additional controls should have been considered and required for the facility.

Response: As explained in the SOB, the limits contained in this construction permit were previously identified in the Department's Regional Haze SIP Revision submitted to EPA on March 4, 2022. Changes to those limits or the addition of new ones are outside the scope of this permit action. The limited purpose of this construction permit is to document, in a single permit, the emission limits the Department's Regional Haze SIP Revision concluded were necessary to make reasonable progress.

Under the federal Clean Air Act, the EPA is responsible for reviewing the Department's SIP submission for Clean Air Act compliance and acting on the plan revision accordingly. 42 U.S.C. Section 7410(k)(3). By federal Consent Decree in Case No. 1:23-cv-01744-JDB before the U.S. District Court for the District of Columbia, the EPA is required to take final action on the Department's Regional Haze SIP Revision on or before July 31, 2025.

The Department further notes that the commenters' concerns regarding the Department's Regional Haze SIP Revision were raised during the public notice period for the Draft Regional Haze SIP Revision and were addressed in the Department's associated response to comments. For the same reasons discussed in the Department's response to comments for the Regional Haze SIP Revision, the limits identified in the plan revision (and, in turn, the construction permit) are considered to be appropriate.

For convenience, relevant responses to comments that were included with the Regional Haze SIP Revision submitted to EPA are repeated herein. Please see the Department's full response to comments for the Regional Haze SIP Revision for additional comments and responses.

Extracts from Regional Haze SIP Revision Response to Comments:

Comment: The Department received comments regarding cost analyses must be based on the EPA's Control Cost Manual.

Response: In 40 CFR 51.308(f)(2)(i), the [Regional Haze Rule] RHR states that, "The State must evaluate and determine the emission reduction measures that are necessary to make reasonable progress by considering the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment." The RHR does not mandate the level of details that must be provided for the cost calculations. The EPA's 2019 Regional Haze Guidance recommends that EPA's Air

Pollution Control Cost Manual be used for determining costs. The EPA's Guidance does allow for alternative approaches to cost calculations.

Comment: The Department received comments regarding South Carolina not using the Bank Prime Interest Rate of 3.25% set in March 2020.

Response: South Carolina accepted interest rates used in cost analyses submitted by the facilities with reasonable justifications. On March 16, 2020, the prime rate was set to a historically low of 3.25% in response to a global pandemic. As of March 2022, the Federal Reserve is set to start raising the prime rate in response to moving from pandemic to endemic and to counter inflation. It is anticipated that the prime rate over the year will be more consistent with pre-pandemic values.

Comment: South Carolina received comments regarding four-factor analyses for NO_x controls should be required for WestRock Charleston and International Paper Georgetown.

Response: Regarding the comments for a four-factor analysis for NO_x controls, it was explained in a previous comment response, and in Section 7.4 of the Regional Haze Plan, sulfates continue to be the largest contributor to anthropogenic visibility impairment at Cape Romain and at affected Class I areas nearby South Carolina, and point sources continue to be the most significant source of SO₂ in South Carolina. If nitrates become an important contributor to visibility impairment in future years, then NO_x emissions will be evaluated in future implementation periods.

Comment: The Department received a comment regarding International Paper (IP) Georgetown stating that South Carolina depended on unsecured emission reductions.

Response: The Department did not rely on unsecured emission reductions, as the emissions from the power boilers from both 2011 and 2019 were reviewed and both scenarios resulted in additional controls not being cost effective.

Comment: The Department received a comment regarding the No. 2 Recovery Boiler at IP Georgetown being “effectively controlled.”

Response: The Department agrees with the commenter that the language is mistaken, and that the No. 2 Recovery Boiler is considered well controlled. It should be noted the Department will have the existing SO₂ emissions limit and associated requirements addressed in a permit to be incorporated into the regulatory portion of the SIP.

Comment: The Department received various comments about IP Georgetown, specifically regarding the cost analysis, including cost algorithms, retrofit factor, conversion factors, owner’s costs, engineering costs, and cost-effective calculations.

Response: South Carolina has reviewed and considered all data submitted relative to costs of compliance consistent with the RHR. In 40 CFR 51.308(f)(2)(i), the RHR states that, “The State must evaluate and determine the emission reduction measures that are necessary to make reasonable progress by considering the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment.” The RHR does not mandate the level of details that must be provided for the cost calculations. The EPA's 2019 Regional Haze Guidance recommends that EPA's Air Pollution Control Cost Manual be used for determining costs. The EPA's Guidance does allow for alternative approaches to cost calculations. In addition, although the EPA recommends that states use the Control Cost Manual as a source of cost estimates and algorithms, the EPA does not require states to use it. The Department did not revise calculations for control costs where the revised costs would still be significantly above a reasonable cost-effectiveness threshold. The Department acknowledges the cost analysis comments and if further considerations are necessary, additional information can be provided in a supplementary SIP package.

Comment: The Department received comments regarding visibility as a fifth factor. The commenters state that it is inconsistent with Clean Air Act's requirements to use visibility as a fifth factor to decide reasonable progress controls.

Response: As documented in Appendix G-1 and Appendix G-2 of the SIP, South Carolina used the four factors in its reasonable progress analysis for Century Aluminum, IP Georgetown, WestRock Charleston, and Santee Cooper Cross Generating Station. The reasonable progress analysis submitted by the facilities characterized the visibility benefits, but South Carolina did not consider this information to determine whether additional controls would be required during this Regional Haze SIP review period. Thus, South Carolina did not use visibility as a fifth factor as the commenter asserts.

Comment: The Department received comments regarding cost threshold. The commenters state that the Department must establish and provide a basis for a cost effectiveness threshold. EPA's regional haze guidance and regulations require that the SIP “explain why the selected [cost] threshold is appropriate for that purpose and consistent with the requirements to make reasonable progress.”

Response: South Carolina has reviewed and considered all data submitted relative to costs of compliance consistent with the RHR. In 40 CFR 51.308(f)(2)(i), the RHR states that, “The State must evaluate and determine the emission reduction measures that are necessary to make reasonable progress by considering the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility

impairment.” The RHR does not mandate the level of details that must be provided for the cost calculations. The EPA's 2019 Regional Haze Guidance recommends that EPA's Air Pollution Control Cost Manual be used for determining costs. The EPA's Guidance does allow for alternative approaches to cost calculations. Regarding documentation, the Department reviewed all cost-effectiveness calculations to determine whether additional information was needed. The Department disagrees that vendor quotes or site-specific information is necessary to estimate costs of compliance. While site-specific cost information is preferred, EPA's August 2019 guidance and the Control Cost Manual note that where site-specific information is not available, states may use generic cost estimates or estimation algorithms in determining costs of compliance. Regarding cost items used, the Department agrees that in certain cases, as described in Section 7.8 of the Regional Haze Plan, certain cost items included in the initial analyses were not justified. Where the estimated cost-effectiveness values were reasonably close to being cost-effective, the Department did not revise calculations for control costs where the revised costs would still be significantly above a reasonable cost-effectiveness threshold.

There are no requirements in either the RHR or EPA guidance for states to establish a cost effectiveness threshold. EPA's August 20, 2019, guidance states that “the Regional Haze Rule does not prevent states from implementing “bright line” rules, such as thresholds, when considering costs” (p. 38) however the state must explain the basis for any threshold. Also, cost of compliance is just one of the four statutory factors to be evaluated when establishing reasonable progress goals. Establishment of a cost effectiveness threshold for determining when a control measure should be required for reasonable progress would ignore the other three statutory factors and thus violate section 169A(g)(1) of Clean Air Act. The Department also noted that substantial reductions in SO₂ and NO_x emissions occurred in South Carolina 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 the Department continues to believe that the decrease in emissions provides additional weight of evidence for the use of a lower cost.