GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

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June 1, 2020

Ms. Mary Walker
Regional Administrator
U.S. EPA, Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-3104

RE: Georgia Power-Plant Bowen 2020 Annual Report for EPA's Data Requirements Rule for the 2010 1-Hour SO_2 NAAQS

Dear Ms. Walker:

This report is being submitted to comply with the ongoing data requirements specified in 40 CFR 51.1205(b), for areas where modeling serves as the basis for designating that area as attainment for the 2010 1-Hour SO_2 NAAQS. The Georgia Environmental Protection Division (EPD) has determined that no additional modeling is needed to characterize air quality in the area surrounding Georgia Power - Plant Bowen.

On January 9, 2018, the U.S. Environmental Protection Agency (EPA) designated Bartow County, GA as Attainment/Unclassifiable with an effective date of April 9, 2018 (83 FR 1098). This designation was based on 2014-2016 modeling submitted to EPA by EPD, which demonstrated that SO_2 emissions from Plant Bowen do not cause or contribute to any exceedances of the 1-hour SO_2 National Ambient Air Quality Standard (NAAQS). The highest modeled SO_2 design value in the modeling domain was 57.6 ppb (30 ppb from Plant Bowen plus the background value of 27.6 ppb).

According to the Data Requirements Rule for the 2010 1-hour SO_2 primary NAAQS (80 FR 51052):

> "*The report must also describe the reason for emissions increases in the previous year at any listed sources and must include a recommendation indicating for which sources and areas the emissions increase was substantial enough to warrant undated air quality modeling that would help determine air quality levels relative to the standard."*
>
> "*For any area where modeling of actual SO_2 emissions serve as the basis for designating such area as attainment for the 2010 SO_2 NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year…that documents the annual SO_2 emissions of each applicable source in each such area... The first report for each such area is due by July 1 of the calendar year after the effective date of the area's initial designation.*"

Table 1 contains the Plant Bowen emissions that were modeled (2014-2016), EPA's Clean Air Markets Division (CAMD) emissions (2014-2019), annual 99th percentile values of hourly emissions, and annual 99th percentile values of daily maximum hourly emissions.

Table 1. SO_2 emissions from Plant Bowen for 2014-2019.

Calendar Year	CAMD SO_2 Emissions (Tons/Year)	Modeled SO_2 Emissions (Tons/Year)	99th Percentile Hourly Emissions (lbs/hour)	99th Percentile Daily Max Hourly Emissions (lbs/hour)
2014	7,204	7,207	6,242	13,683
2015	8,104	8,106	6,335	27,125
2016	10,453	10,456	19,965	35,880
2017	9,451		4,902	8,463
2018	10,169		4,633	11,731
2019	9,231		4,656	5,278

The 3-year average of Plant Bowen SO_2 emissions modeled for 2014-2016 was 8,590 TPY. The 3-year average of SO_2 emissions from Plant Bowen for 2017-2019 was 9,617 TPY which is 12.0 percent higher than the modeled emissions for 2014-2016. Assuming a linear increase of SO_2 concentrations due to additional SO_2 emissions from Plant Bowen, EPD estimates that the modeled SO_2 impacts from Plant Bowen for 2017-2019 would have been 34 ppb (30 ppb x 1.12). Adding this impact to the background SO_2 concentration (27.6 ppb) results in a total concentration of 61.6 ppb (161 µg/m^3). This value is below the NAAQS level of 75 ppb (196 µg/m^3). The average gross generation at Plant Bowen during the 2017-2019 period (13.9 TWh) was approximately 13.7% lower than the 2014-2016 period (16.1 TWh). The sulfur content of the fuel burned at the facility during the 2017-2019 period (2.6% sulfur) was approximately 24% higher than the 2014-2016 period (2.1% sulfur). Therefore, the sulfur content in the fuel attributes to the increase in SO_2 emissions at the facility during the 2017-2019 period compared with the 2014-2016 period.

Since the averaging period of the SO_2 NAAQS is one hour, EPD used the hourly SO_2 emissions data from the CAMD database to compare the high hourly emissions from the 2017-2019 data with the previously modeled 2014-2016 data. The 99th percentile values of daily maximum 1-hour SO_2 emissions were compared between the 2014-2016 period and the 2017-2019 period because the 1-hour SO_2 NAAQS design value is calculated from the 99th percentile daily maximum 1-hour concentrations. The 3-year average 99th percentile values of daily maximum 1-hour SO_2 emissions in the 2017-2019 period (8,490.7 lbs/hour) is 66.8% lower than the 2014-2016 period (25,562.7 lbs/hour). Additionally, EPD compared the 99th percentile values of all 1-hour SO_2 emissions. The 3-year average 99th percentile values of 1-hour SO_2 emissions in the 2017-2019 period (4,730.3 lbs/hour) is 56.4% lower than the 2014-2016 period (10,847.3 lbs/hour). Therefore, EPD has determined that no additional modeling is needed to characterize air quality in the area and the area continues to meet the 2010 SO_2 NAAQS.

As required by 40 CFR 51.1205(b), a copy of this letter is available for public inspection at 4244 International Parkway, Suite 120, Atlanta, GA 30354. In addition, the public can inspect an electronic version of this letter at: https://epd.georgia.gov/air-protection-branch/air-branch-programs/planning-and-support-program/national-ambient-air-quality

Should you or your staff have any questions or comments, please feel free to contact James Boylan at James.Boylan@dnr.ga.gov or 404-363-7014.

Sincerely,

Karen Hays

Karen D. Hays, P.E.
Chief, Air Protection Branch
Georgia Environmental Protection Division