

Air Protection Branch

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Atlanta, Georgia 30354
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June 17, 2019

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

RE: Georgia Power-Plant Bowen 2019 Annual Report for EPA's Data Requirements Rule for the 2010 1-Hour SO₂ 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 SO₂ 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 SO₂ emissions from Plant Bowen do not cause or contribute to any exceedances of the 1-hour SO₂ National Ambient Air Quality Standard (NAAQS). The highest modeled SO₂ 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 SO₂ 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 SO₂ emissions serve as the basis for designating such area as attainment for the 2010 SO₂ NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year...that documents the annual SO₂ 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 (2014-2018), annual 99th percentile values of hourly emissions, and annual 99th percentile values of daily maximum hourly emissions.

Table 1. SO₂ emissions from Plant Bowen for 2014-2018.

Calendar Year	CAMD SO ₂ Emissions (Tons/Year)	Modeled SO ₂ Emissions (Tons/Year)	99 th Percentile Hourly Emissions (lbs/hour)	99 th Percentile Daily Max Hourly Emissions (lbs/hour)
2014	7,204	7,207	6,236	10,604
2015	8,104	8,106	6,241	14,372
2016	10,453	10,456	19,880	32,047
2017	9,436		4,899	7,674
2018	10,197		4,628	8,280

The 3-year average of Plant Bowen SO₂ emissions modeled for 2014-2016 was 8,590 TPY. The 3-year average of SO₂ emissions from Plant Bowen for 2016-2018 was 10,029 TPY which is 16.8 percent higher than the modeled emissions for 2014-2016. Assuming a linear increase of SO₂ concentrations due to additional SO₂ emissions from Plant Bowen, EPD estimates that the modeled SO₂ impacts from Plant Bowen for 2016-2018 would have been 35 ppb (30 ppb x 1.168). Adding this impact to the background SO₂ concentration (27.6 ppb) results in a total concentration of 62.6 ppb (164 µg/m³). This value is below the NAAQS level of 75 ppb (196 µg/m³). According to Georgia Power, average gross generation at Plant Bowen during the 2016-2018 period (15.6 GWh) was approximately 2.5% lower than the 2014-2016 period (16.1 GWh). The sulfur content of the fuel burned at the facility during the 2016-2018 period (2.6% sulfur) was approximately 25% higher than the 2014-2016 period (2.1% sulfur). Therefore, the sulfur content in the fuel attributes to the increase in SO₂ emissions at the facility during the 2016-2018 period compared with the 2014-2016 period.

Since the averaging period of the SO₂ NAAQS is one hour, EPD used the hourly SO₂ emissions data from the CAMD database to compare the high hourly emissions from the 2016-2018 data with the previously modeled 2014-2016 data. The 99th percentile values of daily maximum 1-hour SO₂ emissions were compared between the 2014-2016 period and the 2016-2018 period because the 1-hour SO₂ 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 SO₂ emissions in the 2016-2018 period (16,000.3 lbs/hour) is 15.8% lower than the 2014-2016 period (19,007.7 lbs/hour). Additionally, EPD compared the 99th percentile values of all 1-hour SO₂ emissions. The 3-year average 99th percentile values of 1-hour SO₂ emissions in the 2016-2018 period (9,802.3 lbs/hour) is 9.1% lower than the 2014-2016 period (10,785.7 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 SO₂ 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/documents/bowen-2019-annual-report-data-requirements-rule-2010-1-hour-so2-naaqs>.

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