Sulfur Dioxide (SO_2) Data Requirements Rule

2020 Annual Ongoing Data Requirements Report

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Summary:

The Alabama Department of Environmental Management (ADEM) submits this report pursuant to the United States Environmental Protection Agency's (EPA) Data Requirements Rule (DRR) for the 2010 1 hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS). Specifically, Title 40 of the Code of Federal Regulation (CFR), Part 51.1205(b) states, *"For any area where modeling of actual SO_2 emissions serve[s] 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 is available for public inspection, that documents the annual SO_2 emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year."* This report satisfies this requirement.

The applicable DRR sources in Alabama include a power plant in Walker County and a paper manufacturing plant in Autauga County.

Table 1: Alabama SO_2 Subject DRR Sources

Facility No.	Plant Name
201-0001	International Paper Company- Prattville Mill
414-0001	Alabama Power Company- Plant Gorgas

Additionally, as per the DRR Rule, any source which models using allowable/potential emissions and shows compliance with the 1 hour SO_2 NAAQS is not subject to the Annual Reporting process. In Alabama, this included the Continental Carbon- Carbon Black plant (211-0003) in Russell County, Alabama. As such, this facility is not included in this report.

Based on the analysis of 2018 emissions compared to previous years' emissions, which were the basis of the modeled emissions, it is reasonable to conclude that no additional modeling is necessary. The existing modeling was approved by EPA in its attainment/unclassifiable determinations for the affected counties, and can still be relied on to demonstrate that the NAAQS continues to be met in these areas.

Background:

On June 2, 2010, EPA revised the primary NAAQS for SO_2 to 75 parts per billion (ppb) on a 1 hour average. The Clean Air Act requires states to recommend to EPA the appropriate designation of areas in the state relative to the new NAAQS. This can be determined with ambient air monitoring or with modeling when monitoring is not available.

EPA made the final designations determination based on monitor design values or modeling analyses.

Designations for the new 1 hour SO_2 standard were performed in several rounds. Round 1 covered areas which, based on ambient air quality monitoring data for the years 2009-2011, showed violations of the 1 hour SO_2 standard. There were no areas in Alabama designated under Round 1.

Round 2 covered stationary sources that either emitted more than 16,000 tons of SO_2 in 2012 or emitted more than 2,600 tons of SO_2 with a 2012 emission rate of at least 0.45 pounds (lbs.) SO_2 per million BTU. EPA identified the Alabama Power- Green County Generating Plant as having met the above criterion. However, after further review and discussion, EPA reversed its identification of this source. As such, there were no areas in Alabama designated under Round 2.

Round 3 identified 11 stationary sources in Alabama as subject to the Data Requirements Rule (DRR). Under this rule, designations are required for areas with sources that emit more than 2,000 tons per year of SO_2 (2014 emissions year) that were not addressed in previous rounds. Ten Alabama sources conducted dispersion modeling to demonstrate compliance with the 1 hour SO_2 NAAQS. ADEM submitted its attainment designation recommendations for the ten sources to EPA in January 2017, and EPA designated all areas as attainment/unclassifiable or unclassifiable on April 9, 2018. With the designations of attainment/unclassifiable comes the requirement that ADEM evaluate, yearly, emissions increases and decreases from those sources that chose to model, using actual emissions, to show compliance with the 1 hour SO_2 NAAQS.

Data Requirements Rule (DRR) – Ongoing Data Requirements:

Required Ongoing Data Reviews: Relevant to this report are the DRR's provisions in 40 CFR 51.1205(b), regarding the ongoing data review requirements (discussed at the beginning of this document).

Dispersion modeling for Round 3 was performed using actual emissions or allowable emissions at the source's discretion. The DRR requires that when actual emissions are used for modeling and EPA designates an area as attainment/unclassifiable of the NAAQS, states must submit an annual SO_2 emissions report by July 1 of each year showing the latest annual emissions from each modeled facility. If emissions have increased from the levels modeled, the state must discuss the reason(s) for the increases, and justify why no additional action is needed to ensure that impacts are protective of the 1 hour SO_2 NAAQS.

Annual SO_2 Emissions:

Analysis:

For the 2019 annual review, actual emissions from the last five Title V reporting periods were compared (2014-2018) to assess possible increases in SO_2 emissions. This data is presented both graphically and in table form below. Between 2014 and 2018, the International Paper- Prattville facility showed a continued decrease in SO_2 emissions, and while the Alabama Power Company- Plant Gorgas facility showed a slight increase in SO_2 emissions, the increase was still well below the 2014 emissions. Based on this information, no further analysis is required for these facilities.

Figure 1: Alabama SO_2 Emissions Changes 2014-2018 (tpy)

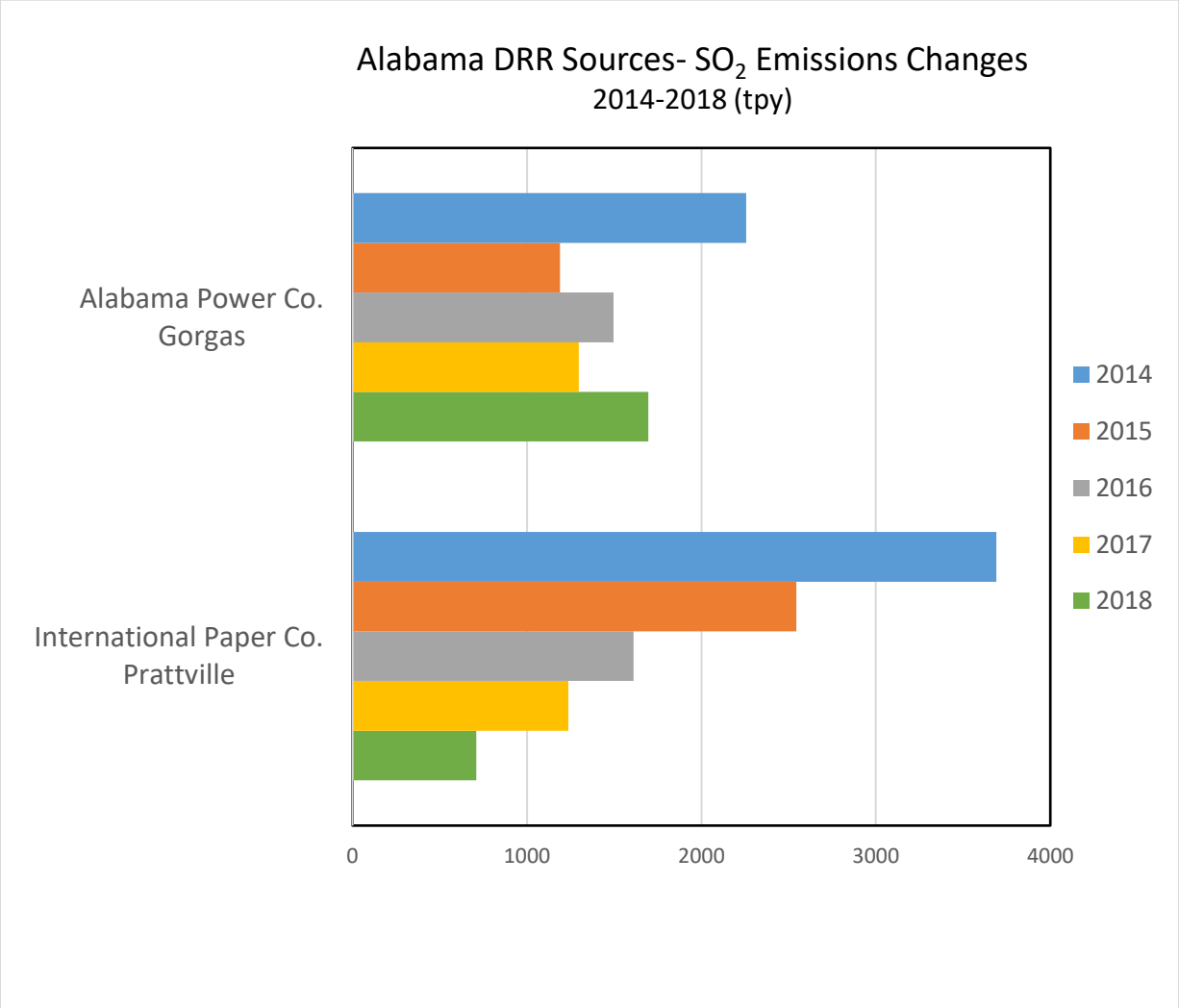

Table 2: Alabama SO_2 Emissions 2014–2018 (tpy)

Facility No.	Plant Name	Year	SO_2 Emissions (tpy)
414-0001	Alabama Power Company Plant Gorgas	2014 2015 2016 2017 2018	2257 1189 1496 1296 1695
201-0001	International Paper Company Prattville Mill	2014 2015 2016 2017 2018	3691 2544 1610 1236 709

As can be seen in the table above, emissions from the base year (2014) are still well above current (2018) emissions. Specifically, International Paper's emissions have decreased from 3691 tpy in 2014 to 709 tpy in 2018. Likewise, Alabama Power's emissions fell from 2257 tpy in 2014 to 1695 tpy in 2018. This equates to a roughly 25%-81% reduction in emissions from the base year to the most recent year at the facilities. It is important to note that Alabama Power Company- Plant Gorgas (414-0001) ceased operation as of mid-April 2019. As a result of this shutdown, the facility's 2019 emissions will reflect a partial year operation and are expected to drop significantly from 2018.

Conclusions:

ADEM has prepared this report as the State's stand-alone Annual Ongoing Data Requirements Report for the 2010 1-hr Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard (NAAQS). This report is intended to fulfill the annual reporting requirements of 40 CFR Part 51 Subpart BB, "*Data Requirements Rule for Characterizing Air Quality for the Primary SO_2 NAAQS*". This report is due on July 1st of each year to meet the reporting requirements in 40 CFR 51.1205(b). For the International Paper-Prattville Mill, emissions have continued to decrease across the period. For the Alabama Power-Plant Gorgas facility, while emissions increased between 2017 and 2018, the 2018 emissions are still well below the 2014 base emissions. Additionally, the Gorgas facility has ceased operation as of April 2019. Based on this information, ADEM has concluded that no further modeling is required for any Alabama sources