

**2010 1-Hour Sulfur Dioxide (SO₂) Primary
National Ambient Air Quality Standard (NAAQS)
Ongoing Data Requirements Rule Verification Termination Request
R.D. Morrow, Sr. Generating Plant, Lamar County, MS
Mississippi Department of Environmental Quality**

On June 2, 2010, the U.S. Environmental Protection Agency (EPA) revised the primary National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO₂) by establishing a 1-hour standard at a level of 75 parts per billion (ppb), which is equivalent to 196.34 µg/m³. The SO₂ Data Requirements Rule (DRR) for the 2010 1-Hour SO₂ Primary National Ambient Air Quality Standard (NAAQS) states in § 51.1205(b):

“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 and provides an assessment of the cause of any emissions increase from the previous year. 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.”

Additionally, as explained in the preamble to the rule:

“...the final rule also includes a provision in § 51.1205(b) enabling the air agency to terminate the ongoing data requirement for a modeled area if it meets certain criteria. The provision is analogous to § 51.1205(a), which allows for the air agency to obtain EPA approval to cease operation of a new ambient monitor if the most recent Design Value (DV) is low enough to meet certain criteria.”

In 2015, Cooperative Energy conducted SO₂ designation modeling using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) to determine whether the area around the R.D. Morrow Senior Generating Plant (RD Morrow Plant) should be designated as attainment or non-attainment. The following dispersion modeling methodology was used to determine the appropriate designation status of the area around the RD Morrow Plant:

- Used the most recent three (3) years of actual emissions (2012, 2013, and 2014);
- Used three (3) years of meteorological data (2012, 2013, and 2014);
- Used actual stack heights rather than limiting model stack heights to GEP height; and
- Included near-by sources from the regional inventories provided by the Mississippi Department of Environmental Quality (MDEQ).

Cooperative Energy conducted the dispersion modeling in accordance with the modeling protocol approved by the U.S. EPA. Table 1 shows the dispersion modeling results, which

indicate the area around the RD Morrow Plant should be classified as “attainment” and that Cooperative Energy does not cause or contribute to any violations of the 1-hour SO₂ NAAQS.

Table 1: SO₂ Designation Modeling Results

	2012	2013	2014
4th Maximum Modeled Concentration, µg/m ³	125.11	123.02	131.42
Design Value Concentration, µg/m ³	115.17	123.02	95.89
4th Highest Averaged Concentration (2012-2014), µg/m ³	111.36		
Background Concentration, µg/m ³	36.65		
NAAQS, µg/m ³	196.34		
NAAQS Exceedance (Yes/No)	No		

In February of 2016, EPA notified MDEQ that, based on the modeling submitted, Lamar County, MS would be designated as unclassifiable/attainment for the 2010 SO₂ standard. Under 40 CFR 51.1205(b), areas designated as attaining the standard based on modeling of actual emissions are required to submit an annual report that includes more recent emissions data and an evaluation of whether further modeling is warranted. Table 2 includes actual facility emissions from EPA’s Clean Air Markets (CAMD) database.

Table 2: RD Morrow Plant Actual SO₂ Emissions (tons) for Units 1 & 2

Facility Name	Year	Unit ID	Operating Time	Heat Input (MMBtu)	SO ₂ (tons)	Total SO ₂ (tons)
RD Morrow Plant	2014	1	2,878	4,592,321	938	2,210
		2	2,569	4,079,314	1,272	
	2015	1	746	1,102,708	54	222
		2	1,480	1,801,828	168	
	2016	1	1,787	2,329,180	63	114
		2	2,050	2,444,379	52	
	2017	1	795	874,919	12	16
		2	260	293,076	4	
	2018	1	0	0	0	30
		2	1,110	1,510,457	30	

Source: EPA’s Clean Air Markets (CAMD) database

As shown in Table 2, total annual SO₂ emissions for the RD Morrow Plant have been reduced since the years used in the modeling (i.e., 2012 -2014) and submitted in 2015. Therefore, the modeling used for the 2010 SO₂ Round 2 designations remain valid and no additional modeling is needed.

On November 9, 2018, Cooperative Energy submitted the attached Retired Unit Exemption forms to EPA indicating that both coal-fired units (Units ID #1 and #2) would be permanently retired on November 17, 2018. Both units have since been dismantled. These

units were replaced with new natural gas combined cycle (NGCC) units. Table 3 lists potential emissions for the new NGCC units as stated in Cooperative Energy’s application and in the attached Mississippi Air Control Permit and Prevention of Significant Deterioration (PSD) Authority number 1440-00021.

Table 3: RD Morrow Plant Potential SO₂ Emissions (tons) for New NGCC Units

Facility Name	Source Description	Source Unit	Pollutant	Potential Emissions (tpy)
RD Morrow Plant	New NGCC	AA-12	SO ₂	50.7
RD Morrow Plant	New NGCC	AA-13	SO ₂	50.7

Table 4: RD Morrow Plant Facility SO₂ Emissions (tons)

Year	SO ₂ (tons)
2011	3301.53
2014	2209.92
2017	20.44
2020	4.39

Table 4 shows the total SO₂ emissions for the entire facility. The RD Morrow Plant is permitted with Units #1 and #2 having been permanently retired and dismantled. Because the county was classified as unclassifiable/attainment while the units were operational, the RD Morrow Plant does not cause or contribute to any violations of the 1-hour SO₂ NAAQS in the vicinity of the facility. Therefore, MDEQ is formally requesting that Cooperative Energy R.D. Morrow Senior Generating Plant be removed from the Ongoing Data Requirements Rule Verification requirements of the 2010 1-Hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard.