

Request for Redesignation and Maintenance
Plan for Attainment of the Partial
St. Clair County 2010 Primary 1-Hour
Sulfur Dioxide Nonattainment Area



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Michigan Department of Environment,
Great Lakes, and Energy

Air Quality Division

August 2023

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TABLE OF CONTENTS

1.0	Introduction	1
1.1	Sulfur Dioxide	2
1.2	National Ambient Air Quality Standards	2
1.3	Geographical Description	3
1.4	Status of Air Quality	5
2.0	Requirements for Redesignation.....	5
2.1	Attainment of the SO ₂ National Ambient Air Quality Standard (NAAQS)	5
	2.1.1 Ambient Air Monitoring Data	6
	2.1.2 Atmospheric Dispersion Modeling	7
2.2	Approved State Implementation Plan	18
2.3	Permanent and Enforceable Improvement in Air Quality	18
2.4	Section 110 and Part D Requirements	20
	2.4.1 Section 110 Clean Air Act (CAA) Requirements	20
	2.4.1.1 Section 110 CAA Requirements	20
	2.4.1.2 CAA Part D Plan Requirements for Nonattainment Areas	20
	2.4.1.3 Section 172(c) CAA Requirements	20
	2.4.1.4 Section 173 CAA Requirements	20
	2.4.1.5 Section 176(c) CAA Requirements	21
	2.4.1.6 Section 191(a) CAA Requirements	21
3.0	St. Clair SO₂ Nonattainment Area Maintenance Plan.....	22
3.1	Attainment Inventory	22
3.2	Demonstration of Maintenance	23
	3.2.1 Modeling	23
	3.2.2 Projected Inventory	23
3.3	Monitoring Network	24
3.4	Verification of Continued Attainment	24
3.5	Contingency Plan	24
	3.5.1 Control Measure Selection and Implementation	25
	3.5.2 Contingency Measures	25
4.0	Public Participation	25
5.0	Conclusions.....	26

FIGURES

Figure 1-1: St. Clair County SO ₂ Nonattainment Area with DTE Utilities and SO ₂ Monitors	3
Figure 1-2: St. Clair County Location.....	4
Figure 2-1: Impacts from Original 2012-2014 CEMS Data and Resulting Nonattainment Boundary.....	8
Figure 2-2: Nonattainment Receptor Grid	10
Figure 2-3: Oakland County International Airport Wind Rose (2017-2021)	11
Figure 2-4: PTK Meteorological Site Location Relative to Nonattainment Area	12
Figure 2-5: Location of DTE SO ₂ Monitors	13
Figure 2-6: Extent DTE Belle River SO ₂ Impacts	15

TABLES

Table 2-1: Monitoring Data for the SO ₂ Nonattainment Area (Annual 99th Percentile and Design Values in ppb).....	6
Table 2-2: Highest Hourly Impacts at the DTE Monitors for Each Year in 2020-2022.....	7
Table 2-3: Modeled Sources and Allowable SO ₂ Emission Rates	9
Table 2-4: Variable Background Season of Year and Hour of Day (ppb).....	14
Table 2-5: 2021 Reported Emissions and Source Inclusion Status	16
Table 2-6: Modeled Source Input and Impact Summary.....	17
Table 2-7: Modeled SO ₂ Emission Rates Before and After Permanent Reductions in 2022	19
Table 3-1: Projected SO ₂ Emissions to 2033 Maintenance-Year for EGUs, St. Clair Nonattainment Area.....	24

APPENDICES

- A Air Quality System (AQS) Monitor Data Values for the St. Clair County 2010 Primary 1-Hour SO₂ Nonattainment Area
- B Public Participation Process Documentation

**Request for Redesignation and Maintenance Plan
for Attainment of the Partial
St. Clair County 2010 Primary 1-Hour
Sulfur Dioxide Nonattainment Area**

1.0 Introduction

This document supports Michigan's request that the partial St. Clair County Nonattainment Area (NAA) be redesignated from nonattainment to attainment for the 2010 primary 1-hour sulfur dioxide (SO₂) standard. The NAA has recorded three years of complete, quality-assured ambient air quality monitoring data for the years 2019–2021, demonstrating attainment of the 1-hour SO₂ standard. Modeling of the area's remaining DTE power plant, Belle River, also shows attainment of the SO₂ standard.

Michigan's request is made through the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD). The request is based on Section 107(d)(3)(D) of the Clean Air Act (CAA), which states:

- (D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation. The submission of a redesignation by a Governor shall not affect the effectiveness or enforceability of the applicable implementation plan for the State.

Section 107(d)(3)(E) of the CAA establishes specific requirements to be met for an area to be considered for redesignation, including:

- (a) A determination that the area has attained the SO₂ National Ambient Air Quality Standard (NAAQS).
- (b) A state implementation plan (SIP) for the area under Section 110(k) of the CAA that is fully approved.
- (c) A determination that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the SIP or other federal requirements.
- (d) A determination that all Section 110 and Part D requirements of the CAA have been met.
- (e) A maintenance plan under Section 175A of the CAA that is fully approved.

Michigan is formally requesting a redesignation of the partial St. Clair County NAA to attainment. The requirements for redesignation are addressed in Sections 2.0 and 3.0 of this document.

1.1 Sulfur Dioxide

SO₂ is part of a group of highly reactive gases known as oxides of sulfur (SO_x) and is primarily derived from fossil fuel combustion at power plants and other industrial facilities. SO₂ is one of the six criteria air pollutants regulated under the federal CAA. SO₂ is considered to be harmful to human health, and has been linked with many adverse health effects, particularly within the respiratory system. SO₂ is also a primary contributor to acid rain, which causes acidification of lakes and streams, damages trees at high elevations, and damages sensitive forest soils.

1.2 National Ambient Air Quality Standards

SO₂ is one of the six criteria air pollutants that scientists have identified as being particularly harmful to humans and the environment. NAAQS have been developed for these six pollutants and are used as measurements of air quality. The CAA requires the United States Environmental Protection Agency (U.S. EPA) to set primary standards at a level judged to be “requisite to protect the public health with an adequate margin of safety,” and establish secondary standards that are requisite to protect public welfare from “any known or anticipated effects associated with the pollutant in the ambient air,” including effects on crops, vegetation, wildlife, buildings and national monuments, and visibility.

On June 2, 2010, the U.S. EPA promulgated a new primary NAAQS for SO₂, replacing the two primary standards of 140 parts per billion (ppb) evaluated over 24-hours and 30 ppb evaluated over an entire year with a 1-hour standard of 75 ppb. The 2010 primary 1-hour SO₂ NAAQS was published in the June 22, 2010, *Federal Register* (FR), at 75 FR 35520, with an effective date of August 23, 2010. The primary SO₂ NAAQS is met when the 3-year average of the annual 99th percentile of the daily maximum 1-hour average concentration at any ambient air quality monitor in an area does not exceed 75 ppb. This 3-year average is termed the “design value” for the monitor. The design value for an NAA is the highest monitored design value in the area.

On September 12, 2016, using modeled maximum allowable SO₂ emissions data from two DTE power plants, Belle River and St. Clair, the U.S. EPA designated a portion of St. Clair County as a single NAA under Subpart 1 of Section 107(d)(1) of the CAA (78 FR 47191). This designation became effective on October 12, 2016, establishing an attainment date of October 12, 2021.

1.3 Geographical Description

The U.S. EPA designated a portion of St. Clair County as nonattainment for the 2010 primary 1-hour SO₂ NAAQS, as depicted in Figure 1-1 and Figure 1-2.

Figure 1-1: St. Clair County SO₂ Nonattainment Area with DTE Utilities and SO₂ Monitors

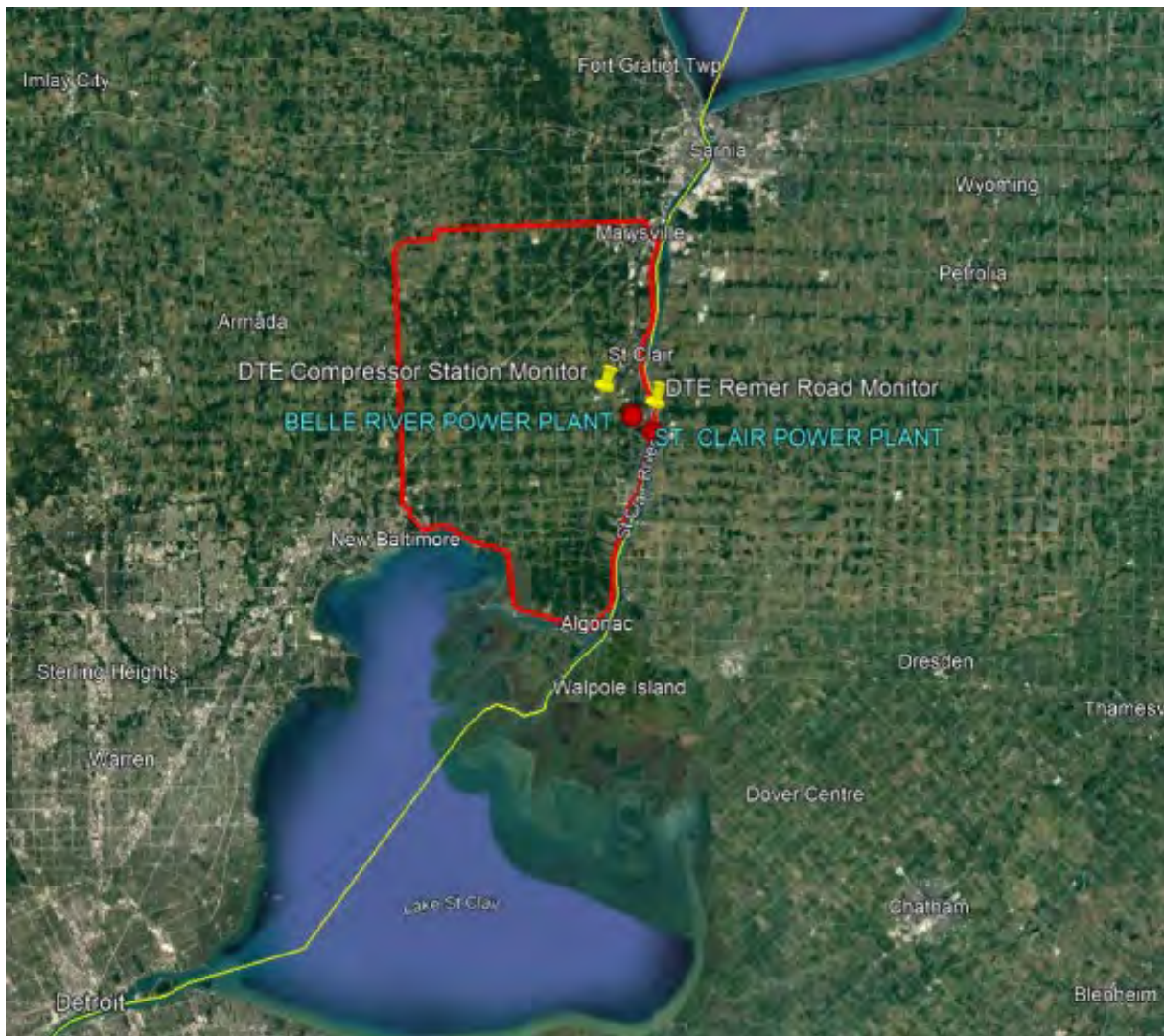
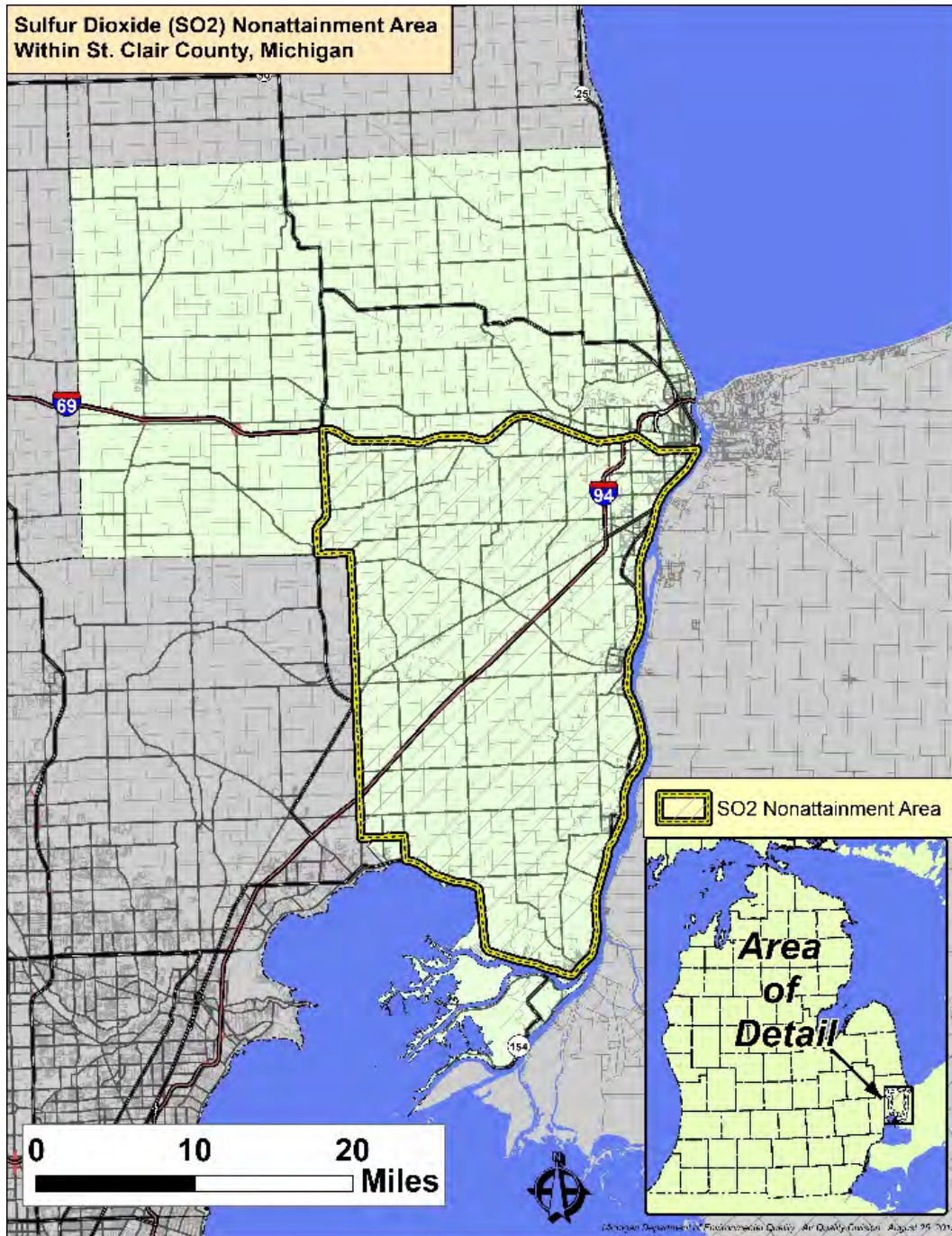


Figure 1-2: St. Clair County Location



Specifically, the area is defined by the St. Clair River for the eastern boundary, an extension from the St. Clair River straight west to the intersection of State Highway M-29 and St. Clair River Drive, continuing west on State Highway M-29 to Church Road to Arnold Road to County Line Road for the southern boundary, County Line Road and the Macomb/St. Clair County boundary to Stoddard Road to Wales Ridge Road for the western boundary, and Alpine Road to

Fitz Road to Smith Creek Road to Range Road to Huron Avenue, extending straight east from the intersection of Huron Road and River Road to the St. Clair River for the northern boundary.

1.4 Status of Air Quality

There have been two monitors measuring SO₂ concentrations in the partial St. Clair County NAA. The monitors were installed and operated by DTE to assess SO₂ impacts from the two power plants in the area. The AQD's only SO₂ monitor in the county is located approximately 12 miles north of the power plants, too far downwind to register any hotspot impacts from the power plants.

A listing of the two monitoring sites, referred to as Mills and Remer, with annual 99th percentile daily maximum 1-hour values from 2018 – 2022 and corresponding design values retrieved from U.S. EPA's Air Quality System (AQS) database, are shown in Table 2-1. The locations of the monitoring sites in this NAA are shown in Figure 1-1.

Sulfur dioxide monitoring data for the most recent three years available, 2020 – 2022, demonstrates that the air quality meets the 2010 primary 1-hour SO₂ standard in the NAA. This fact, accompanied by the permanent and enforceable decreases in emission levels discussed in Section 2.3, justifies a redesignation to attainment for the partial county SO₂ NAA based on Section 107(d)(3)(E) of the CAA.

2.0 Requirements for Redesignation

The U.S. EPA has published guidance in the document "Procedures for Processing Requests to Redesignate Areas to Attainment," issued September 4, 1992, to Regional Air Directors.¹ In addition, the U.S. EPA has published guidance specific to SO₂ titled "Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions," issued April 23, 2014, to Regional Air Division Directors.² This Request for Redesignation and Maintenance Plan is based on the Redesignation Guidance and SO₂ Nonattainment Area SIP Guidance, supplemented with additional guidance received from U.S. EPA Region 5 staff. The SO₂ guidance, as well as Section 107(d)(3)(E) of the CAA, lists the requirements that must be met by NAAs prior to consideration for redesignation to attainment. The specific requirements for redesignation are discussed below.

2.1 Attainment of the SO₂ NAAQS

- 1) A demonstration that the NAAQS for SO₂, as published in 40 Code of Federal Regulations (CFR) 50.17, has been attained.
- 2) Ambient monitoring data quality-assured in accordance with 40 CFR Part 50, Appendix T have been recorded in the U.S. EPA AQS database and made available for public view.

Attainment of the NAAQS for SO₂ is demonstrated in two ways: ambient air monitoring and atmospheric dispersion modeling.

¹ https://www.epa.gov/sites/production/files/2016-03/documents/calcaigni_memo_-_procedures_for_processing_requests_to_redesignate_areas_to_attainment_090492.pdf

² https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf

2.1.1 Ambient Air Monitoring Data

As stated in Section 1.4 of this document, ambient monitoring data in the NAA was collected by two DTE monitors installed in late 2016 near their two power plants. Monitoring data at the two DTE SO₂ monitors for 2017 through 2019 showed attainment of the SO₂ NAAQS for that time frame and served as justification for EGLE’s Clean Data Determination (CDD) submittal to the U.S. EPA in lieu of an attainment SIP. The U.S. EPA approved the CDD in late 2021³. The DTE monitors continued to collect SO₂ data through the end of 2022 showing that the NAAQS continued to be met over that time period. Documentation of the monitoring data is contained in Appendix A of this document.

As explained in 40 CFR 50, Appendix T, three complete years of SO₂ monitoring data are required to demonstrate attainment at a monitoring site. The 1-hour SO₂ NAAQS is met at an air quality monitoring site when the 3-year average of the annual 99th percentile daily maximum 1-hour value concentration is less than or equal to 75 ppb. When this occurs, the site is deemed to be meeting the NAAQS. The 1-hour primary design value is rounded to the nearest whole number or 1 ppb (i.e., decimals 0.5 and greater are rounded up to the nearest whole number, and any decimal lower than 0.5 is rounded down to the nearest whole number). Values equal to or below 75 ppb meet the standard; values greater than 75 ppb exceed the standard. These data handling procedures are applied on an individual basis at each monitor in the area. An individual site’s 3-year average of the 99th percentile daily maximum 1-hour average SO₂ concentration is called the site’s design value. The air quality design value for the area is the highest design value among all sites in the area. The data from the two SO₂ monitors in the St. Clair County NAA are evaluated according to the procedures outlined in 40 CFR Part 50, Appendix T.

Table 2-1 lists the annual 99th percentile daily maximum 1-hour values from 2018 – 2022 and corresponding design values for the two monitoring sites, demonstrating that the NAAQS for SO₂ has been attained.

Table 2-1: Monitoring Data for the SO₂ Nonattainment Area (Annual 99th Percentile and Design Values in ppb)

Site ID	County	Site Name	99 th Percentile Values					3-year Design Values		
			2018	2019	2020	2021	2022	2018-2020	2019-2021	2020-2022
DTE	St. Clair	Mills	50	40	28.8	62.2	34	40	44	42
DTE	St. Clair	Remer	65	45	24.5	41.1	38	45	37	35

³[2021-26471.pdf \(govinfo.gov\)](https://www.govinfo.gov/laws/presidential-proclamations/2021-26471.pdf)

Table 2-2: Highest Hourly Impacts at the DTE Monitors for Each Year in 2020 - 2022

	Date (2020)	Mills monitor (ppb)	Date (2020)	Remer monitor (ppb)
1 st Highest	June 8	59.6	July 14	28
2 nd Highest	September 19	50.5	May 16	27.9
3 rd Highest	August 12	32.4	July 5	27.2
4 th Highest	September 20	28.8	June 8	24.5
	Date (2021)		Date (2021)	
1 st Highest	June 12	82.7	June 12	67.7
2 nd Highest	July 18	71.6	June 9	55.2
3 rd Highest	June 13	66.2	August 4	41.7
4 th Highest	July 28	62.2	July 18	41.1
	Date (2022)		Date (2022)	
1 st Highest	March 18	59	February 15	42
2 nd Highest	May 24	55	May 24	40
3 rd Highest	May 7	41	April 5	39
4 th Highest	March 28	34	April 22	38

A more detailed explanation to determine whether the NAAQS has been met at both SO₂ monitors is shown in Table 2-2, where fourth high values from each year are averaged for the most recent 3 years (2020-2022) for each monitor. For the Mills monitor, the average of 28.8, 62.2, and 34 equals 42, which is well below the 75 ppb NAAQS. For the Remer monitor, the average of 24.5, 41.1, and 38 equals 35, also well below the NAAQS.

2.1.2 Atmospheric Dispersion Modeling

Nonattainment Area

The St. Clair nonattainment designation for SO₂ was triggered by modeling 2012-2014 Continuous Emissions Monitoring System (CEMS) data from the DTE Belle River and St. Clair power plants (DTE power plants). Because the violating impacts were confined to the area around the power plants, it was not necessary to designate the entire county as nonattainment. Additionally, the Port Huron monitor (approximately 20 km to the north) was not showing nonattainment so care was taken not to include it in the nonattainment boundary. The NAA is described in section 1.3 in this document. Figure 2-1 depicts the graphical results of the attainment designation modeling and the resulting nonattainment boundary. Graphical impact units are in ppb.

Figure 2-1: Impacts from Original 2012-2014 CEMS Data and Resulting Nonattainment Boundary



Facility Description

Only two additional sources, other than the DTE power plants, were originally identified as having a significant concentration gradient contribution to the NAA: Cargill Salt and E.B. Eddy. These facilities have since replaced their coal-fired boilers with natural gas boilers (Cargill Salt in 2015 and E.B. Eddy in 2016) and are no longer a significant SO₂ emitter.

The DTE St. Clair power plant was shut down in May 2022. Since the St. Clair power plant shut down, the only source significant in the NAA currently is the DTE Belle River power plant. There is a significant SO₂ source in Sarnia, Ontario, but it is not included in the analysis due to lack of information and international jurisdiction. Only the DTE Belle River power plant is addressed in this analysis.

DTE Belle River went through the permitting process to adjust their worst-case hourly allowable emissions. A summary of the worse-case hourly emissions at each Belle River boiler is listed in Table 2-3, and additional stack information is contained in Table 2-6.

Table 2-3: Modeled Sources and Allowable SO₂ Emission Rates

	Modeled Emission Rate (lb/hr)
DTE BELLE RIVER	
BELLERV1	4,634
BELLERV2	4,634

Sources not included in the modeled emissions inventory typically were minor sources (less than 1,000 lbs/year), intermittent emergency equipment, and natural gas sources. Table 2-5 lists the reported 2021 actual SO₂ emissions at DTE Belle River. Only allowable emissions associated with the turbines were explicitly included in the modeling exercise. Ancillary sources, totaling 1.6 tpy, were not included in the modeling exercise and are assumed as part of the monitored background.

Model Selection

The following models and supporting models were used in the modeling analysis:

- AERMOD (version 22112)
- AERMAP (version 18081)
- AERMET (version 22112)
- AERMINUTE (version 15272)
- AERSURFACE (version 20600)
- BPIPPRM (version 04274)

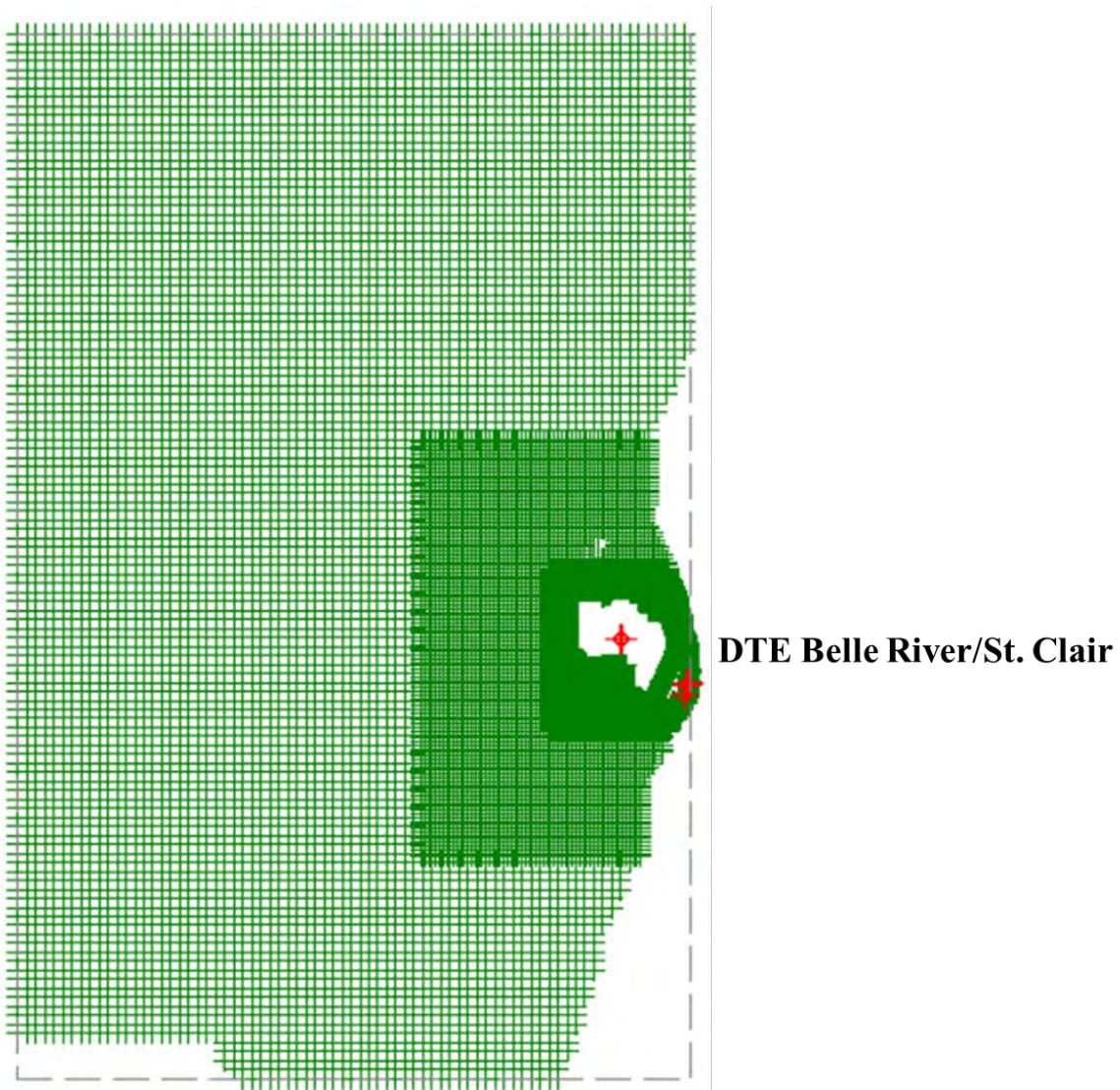
EGLE used the Lakes Environmental program system to assemble, run, and provide graphical results of the modeling analysis.

Modeled Receptor Grid

The modeling receptor grid spacing was tight closest to the emission sources (50 meters [m]), then expands to 100 m and eventually 250 m on the outer region of the receptor grid, for a total of 17,260 discrete receptors with nonambient air receptors being excluded.

The topography in this area is generally flat with receptor terrain heights still included for modeling enhancement using AERMAP and 30 m NED GEOTIFF. The nonattainment receptor grid, with nonambient receptors removed, is shown in Figure 2-2.

Figure 2-2: Nonattainment Receptor Grid



Meteorology

Oakland County International Airport (PTK) meteorological (met) data was defined as the most representative for available 1-minute data during the designation process. Because of the nonattainment designation, DTE installed two on-site monitoring and meteorology stations in late 2016. Appendix W guidelines allow the use of 1 year of on-site met data instead of 5 years of representative data. The final meteorology used in the SIP demonstration was determined by the availability and completeness of the meteorological data. After discussions with the U.S. EPA concerning their preference, the SIP redesignation project used the 2017–2021 data from PTK data. One-minute data was used with the Adjusted Ustar surface friction velocity to minimize the number of calm hours (2.5%) and maximize data completeness (99.48%). The wind rose for 2017-2021 PTK is depicted in Figure 2-3 and again in Figure 2-4 relative to the NAA.

Figure 2-3: Oakland County International Airport Wind Rose (2017-2021)

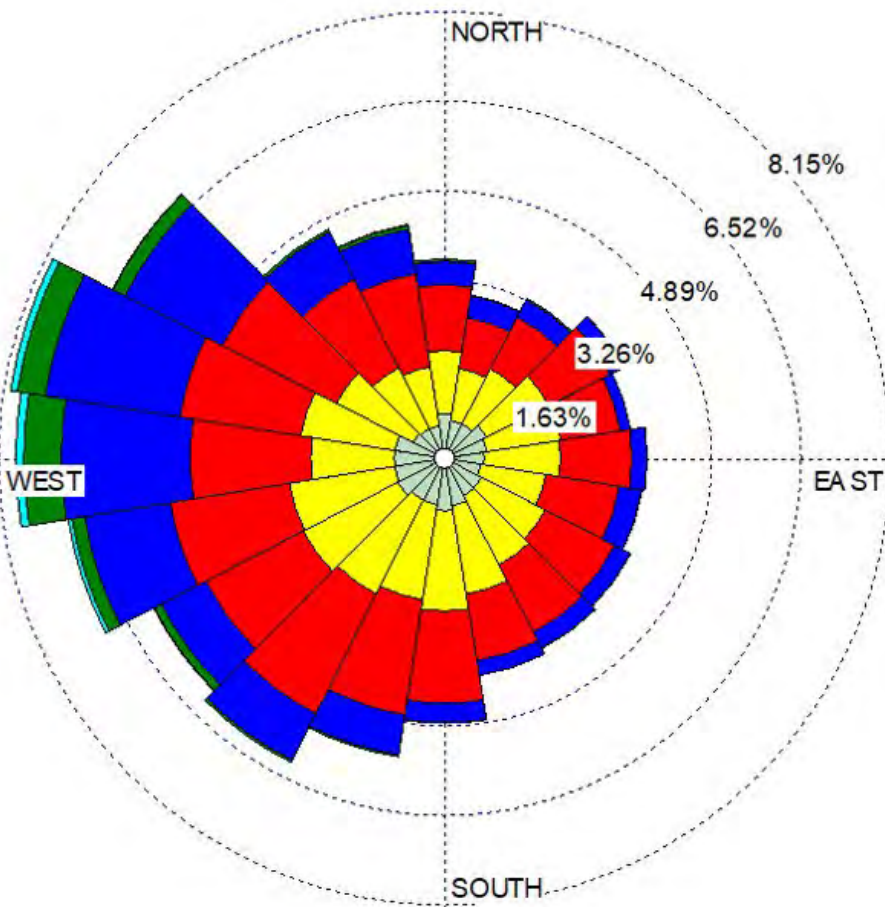
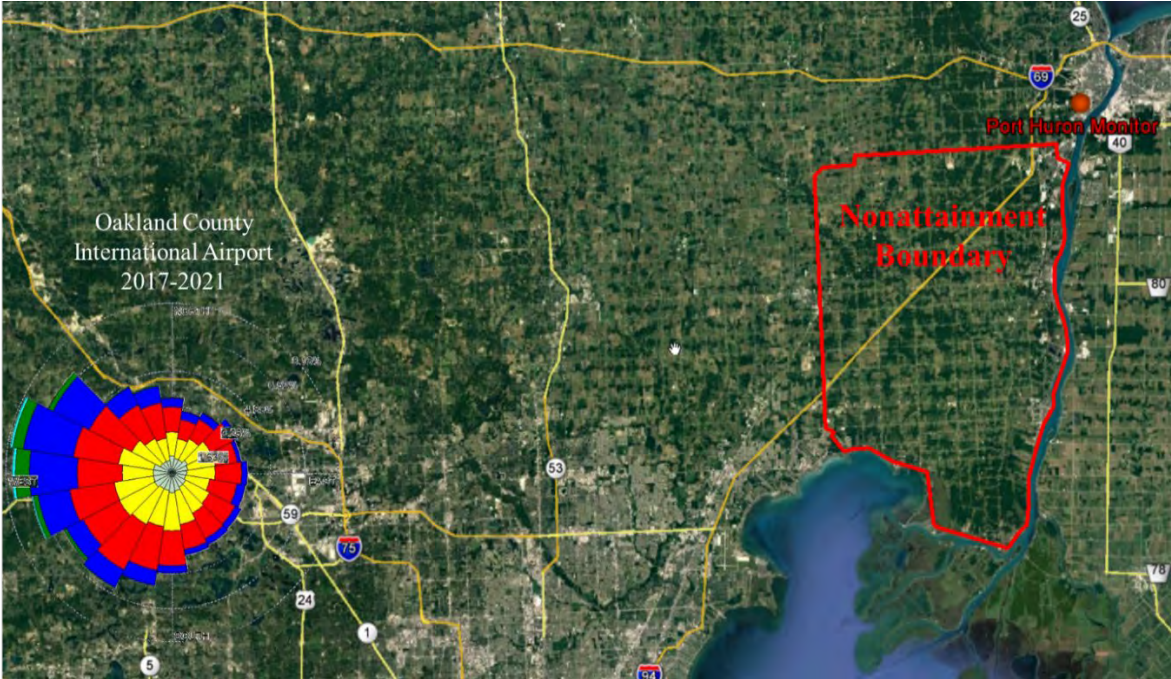


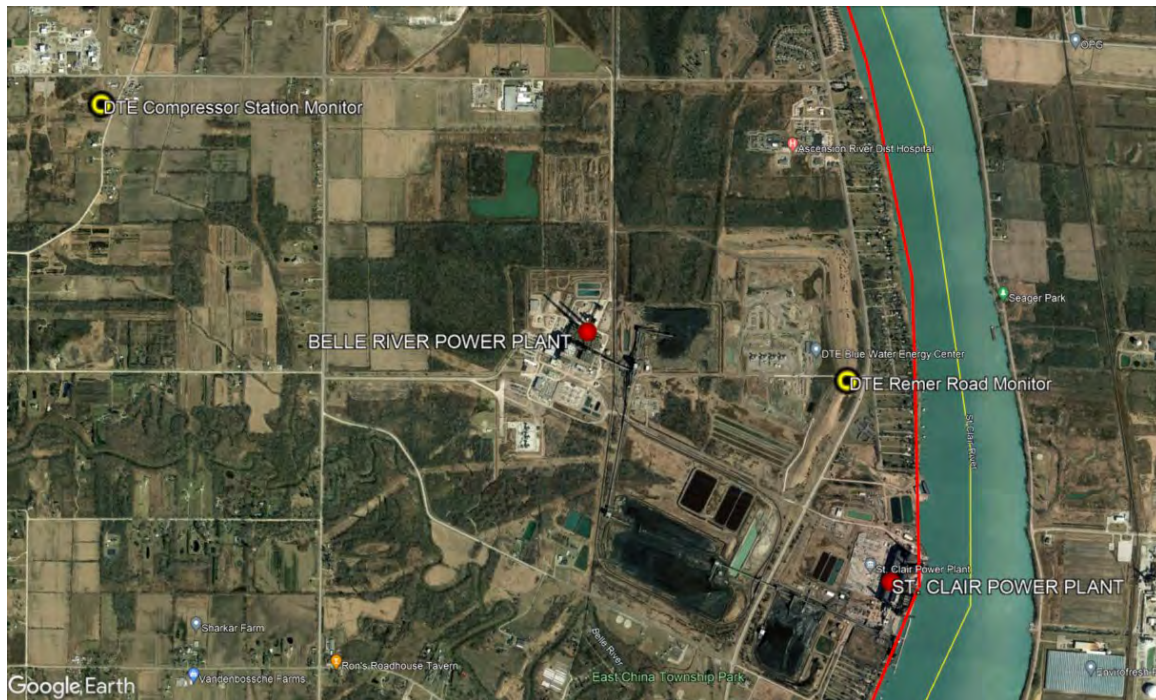
Figure 2-4: PTK Meteorological Site Location Relative to Nonattainment Area



Background Concentration

To account for SO₂ from small and regional sources that weren't modeled explicitly, a representative background concentration was necessary. The two DTE monitors served a dual purpose: to show actual impacts in SO₂ hotspot areas near the power plants, and to determine background concentrations in the immediate vicinity of the Belle River and St. Clair power plants (Figure 2-5).

Figure 2-5: Location of DTE SO₂ Monitors



The design value for each DTE monitor, for the 2019-2021 monitoring period, follows.

- DTE Mills Compressor Station Monitor: 44 ppb
- DTE Remer Road Monitor: 37 ppb

For conservatism, EGLE chose the DTE Mills Compressor Station monitor, three kilometers northwest of the DTE Belle River facility, as the representative background for this analysis.

EGLE chose to use variable background concentrations, as originally described in the U.S. EPA's March 1, 2011, memo:

(https://www.epa.gov/sites/default/files/2015-07/documents/appwno2_2.pdf).

When originally deriving the variable background, by hour of day and season of year, EGLE removed the wind sectors, which contained the Belle River/St. Clair plants and Canadian sources. However, upon further analysis, it was determined that removing those sectors only slightly increased the overall impacts; therefore, all wind sectors were left in the final analysis for conservatism. The variable backgrounds, with no wind direction exclusions and by season of year and hour of day, ranged from 1.5 ppb to 59.6 ppb.

The variable background table, as input to AERMOD, is provided as Table 2-4. Note, however, that the values provided to AERMOD were divided by 2.62 since modeling concentration units were modified to provide impacts in ppb rather than $\mu\text{g}/\text{m}^3$.

Table 2-4: Variable Background Season of Year and Hour of Day (ppb)

** Winter						
BACKGRND SEASHR	2.0	2.4	2.3	2.7	6.0	5.0
BACKGRND SEASHR	4.8	7.9	11.0	12.0	14.0	11.0
BACKGRND SEASHR	19.0	23.0	19.0	20.6	28.7	17.0
BACKGRND SEASHR	6.0	4.0	3.0	4.0	8.0	4.0
** Spring						
BACKGRND SEASHR	11.0	10.0	9.7	7.0	11.0	5.1
BACKGRND SEASHR	7.9	17.5	23.4	12.4	23.4	20.9
BACKGRND SEASHR	16.3	21.2	16.8	23.0	20.7	32.1
BACKGRND SEASHR	33.0	26.0	13.0	13.8	15.0	13.6
** Summer						
BACKGRND SEASHR	11.3	6.4	11.1	6.5	6.9	12.4
BACKGRND SEASHR	13.9	10.7	14.0	24.8	59.6	28.4
BACKGRND SEASHR	28.8	32.4	31.0	36.4	35.7	40.1
BACKGRND SEASHR	47.0	46.5	24.0	18.0	12.6	6.9
** Fall						
BACKGRND SEASHR	5.9	7.5	2.2	1.5	1.5	1.5
BACKGRND SEASHR	1.5	1.9	2.1	8.7	18.1	22.0
BACKGRND SEASHR	29.6	21.7	16.2	15.1	14.6	10.7
BACKGRND SEASHR	4.3	2.2	2.8	3.8	3.9	4.0

Data from these two monitors have been continually provided to the U.S. EPA through the end of 2022. DTE has discontinued their monitors due to costs, consistently attaining values, and the fact that modeling shows attainment of the NAAQS will be maintained.

Urban/Rural Source Selection

Based on the population and industrial demographics for the area, EGLE selected rural coefficients for the SIP model runs. The current population of St. Clair County (including attainment and NAAs) is approximately 160,000 (e.g., 2021 census) over an area of 721 square miles.

Modeling Input Parameters and Impact Summary

Table 2-6 provides all input parameters and impact summaries for this redesignation analysis. Note that the AERMOD model had units adjusted to provide impacts in ppb. The variable background was directly input to the model, as previously discussed. Impacts include just the DTE Belle River facility and also with background added. Figure 2-6 shows the geographical extent of SO_2 impacts the DTE Belle River facility within the nonattainment area.

Figure 2-6: Extent of DTE Belle River SO₂ Impacts

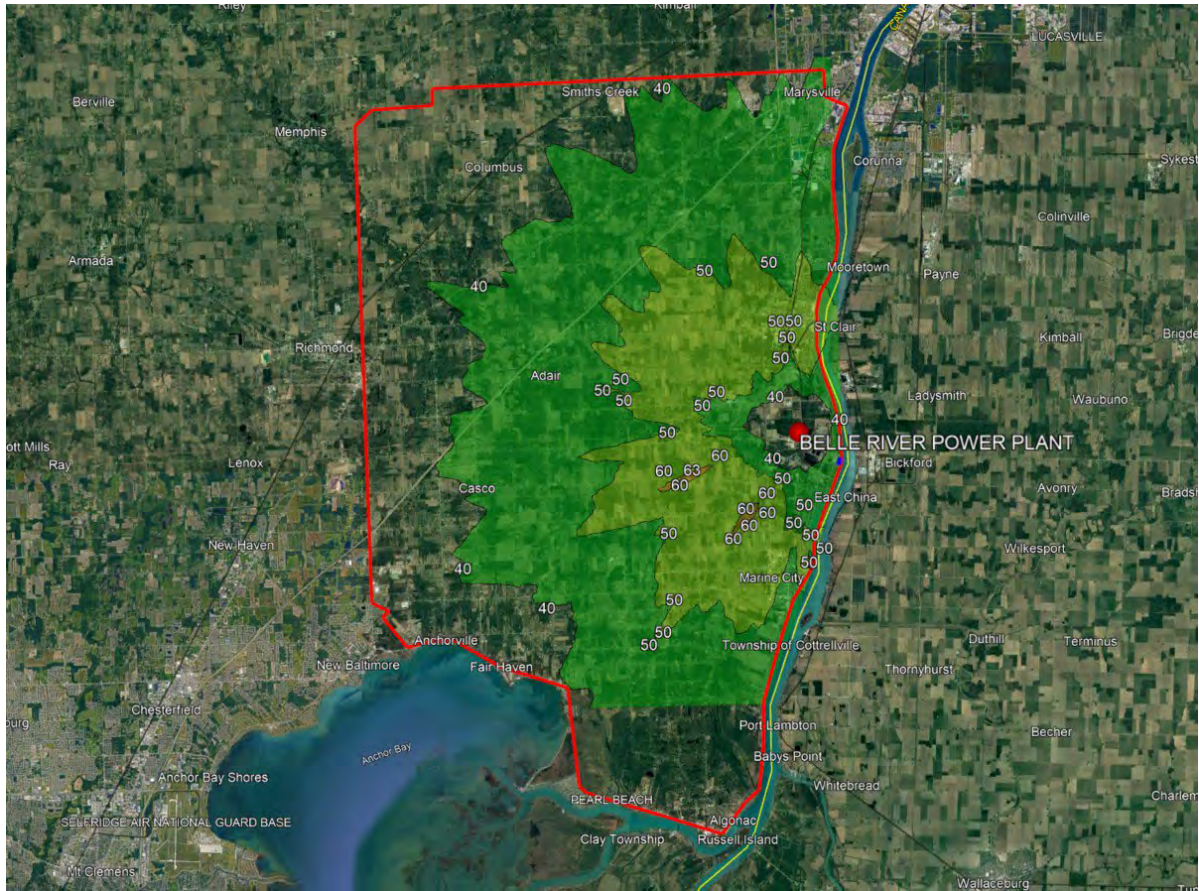


Table 2-5: 2021 Reported Emissions and Source Inclusion Status

EMISSION UNIT	2021 OPERATING SCHEDULE			SO ₂ (LBS/YR)	
	HRS/DY	DY/WK	DY/YR		
Belle River Unit No. 1	24	24	300	20,754,676	Modeled
Belle River Unit No. 2	24	24	315	23,947,666	Modeled
Belle River Diesel Generator Peaking Units DG 11-1	3	3	9	0.67	Not Modeled
Belle River Diesel Generator Peaking Units DG 11-2	3	3	9	0.67	Not Modeled
Belle River Diesel Generator Peaking Units DG 11-3	3	3	9	0.68	Not Modeled
Belle River Diesel Generator Peaking Units DG 11-4	3	3	9	0.67	Not Modeled
Belle River Diesel Generator Peaking Units DG 11-5	3	3	9	0.67	Not Modeled
Belle River Peaker, Natural Gas-fired Turbine Generator, No. 12-1	10	10	73	200.0	Not Modeled
Belle River Peaker, Natural Gas-fired Turbine Generator, No. 12-2	10	10	70	400.0	Not Modeled
Belle River Peaking, Natural Gas-fired Turbine Generator, No. 13-1	10	10	70	200.0	Not Modeled
DTE Dean CTG Unit 2 (Unit 12-1)	10	10	21	600.0	Not Modeled
DTE Dean CTG Unit 3 (Unit 11-1)	10	10	227	600.0	Not Modeled
DTE Dean CTG Unit 4 (Unit 11-2)	10	10	245	600.0	Not Modeled
DTE Dean CTG Unit 1 (Unit 12-2)	10	10	135	600.0	Not Modeled
Belle River Emergency Fire House Pump	1	1	42	0.13	Not Modeled
A natural gas-fired 12.12 MMBTU/hr heat input HP fuel heater	1	1	3	0.02	Not Modeled
A natural gas-fired 3.8 MMBTU/hr heat input LP fuel heater	1	1	8	0.01	Not Modeled
Natural gas-fired space heaters (10 MMBTU/hr or less)	24	24	194	23.43	Not Modeled

Table 2-6: Modeled Source Input and Impact Summary

STACK INPUT PARAMETERS											
Sources	Stack Type	SO ₂ Emission Rate		Stack Height ³		Exit Temperature		Exit Flow (ACFM)	Velocity (m/s)	Stack Diameter	
		(lb/hr)	(g/s)	(feet)	(meters)	(F)	(K)			(feet)	(meters)
BELLERV1	Point	4634	583.9	656.3	200.0	290.0	416.5	2,755,914	27.43	25.49	7.77
BELLERV2	Point	4634	583.9	656.3	200.0	290.0	416.5	2,755,914	27.43	25.49	7.77

NAAQS ANALYSIS											
Pollutant	Averaging Period	NAAQS Threshold (ppb)	2017 (µg/m ³)	2018 (µg/m ³)	2019 (µg/m ³)	2020 (µg/m ³)	2021 (µg/m ³)	5-Yr Average Summary		Percent of NAAQS Threshold	Pass/Fail?
								Facility Only ¹ (ppb)	With Background ² (ppb)		
SO ₂	1-Hour	75	--	--	--	--	--	53.7	62.8	83.8%	Pass

¹ Facility impacts comprised of maximum 5-year average of the 99th percentile 1-hr SO₂ concentrations.

² Background concentration consists of a variable 3-year statistical percentile average, by hour of day and season of year.

³ Stacks are GEP height via 80 meter building of influence.

2.2 Approved State Implementation Plan

Section 191(a), Subpart 5, Part D, Title 1 of the CAA requires states with SO₂ NAAs to submit a plan (referred to as an “attainment demonstration”) within 18 months of the effective date of the designations (i.e., by early 2018) detailing how the SO₂ standard will be attained as expeditiously as practicable but no later than five years after the effective date of the designation. The 5-year requirement ended in mid-2021.

As EGLE worked with DTE to develop the SIP, the company determined that the St. Clair power plant would cease operating in mid-2022. The result would be a significant reduction in SO₂ emission impacts in the area. However, the plant closure date would be several months beyond the required compliance date of 2021. To address this issue, instead of submitting an attainment SIP that would not show attainment until after the required attainment date, EGLE submitted to the U.S. EPA a demonstration based on monitoring data at the two DTE SO₂ monitors for 2017 through 2019 showing attainment of the SO₂ NAAQS. This demonstration is called a Clean Data Determination (CDD). The U.S. EPA approved the CDD in late 2021³.

Under the Clean Data Policy, the U.S. EPA may issue a CDD after notice and comment rulemaking determining that a specific area is attaining the relevant standard. For such areas the requirement to submit to the U.S. EPA those SIP elements related to attaining the NAAQS is suspended for as long as the area continues to attain the standard. Planning elements that are suspended include reasonable further progress (RFP) requirements, attainment demonstration, Reasonably Available Control Measures, contingency measures, and other state planning requirements related to attainment of the NAAQS. As described in Section 2.1.1 of this document, SO₂ monitored values have remained well below the NAAQS, allowing the CDD to remain in place until the area is redesignated to attainment.

2.3 Permanent and Enforceable Improvement in Air Quality

As stated previously, two facilities were modeled to show impacts of SO₂ creating the St. Clair County NAA, and no other sources of SO₂ of significant size are in the area. Emission reductions at these two facilities account for large reductions of SO₂, particularly the shutdown of the St. Clair power plant in 2022.

These permanent and enforceable reductions of SO₂ emissions have contributed to modeled attainment of the NAAQS. Electric-generating unit (EGU) SO₂ emissions within the area declined by 76% between the modeled nonattainment years (pre-2022) and the modeled attainment year (2022) resulting in attainment of the 2010 primary 1-hour SO₂ NAAQS. Table 2-7 contains the allowable values that were modeled, which are derived from permitted maximum allowable emission rates.

Table 2-7: Modeled SO₂ Emission Rates Before and After Permanent Reductions in 2022

Modeled Source	Emission Unit	Before (lbs/hr)	After (lbs/hr)
Belle River Power Plant	Boiler 1	8176	4634
	Boiler 2	8176	4634
St. Clair Power Plant*	Unit 1	2355	0
	Unit 2	2355	0
	Unit 3	2355	0
	Unit 4	2355	0
	Unit 6	5186	0
	Unit 7	7840	0

* The St. Clair power plant ceased operation in 2022. As a result, the facility's Acid Rain Permit was revoked on December 15, 2022.

EGLE has performed modeling of the NAA to determine the effect of emission reductions on SO₂ and to demonstrate attainment of the standard. Modeling results for the two facilities demonstrated that the SO₂ NAA was attaining the NAAQS with the shutdown of the St. Clair power plant and implementation of lower emission limits on the Belle River power plant. The revised Belle River SO₂ emission limits took effect in April 2022, and the St. Clair facility shut down in May 2022. St. Clair's Acid Rain permit was revoked on December 15, 2022. Belle River is prohibited from reducing or removing emissions controls (anti-backsliding) following redesignation of the area unless such a change is first approved by the U.S. EPA as a revision to EGLE's SIP consistent with Section 110(l) of the CAA.

In addition, SO₂ emissions are limited by new source performance standards under Sections 111 and 129 of the CAA, and the national emission standards for hazardous air pollutants (NESHAP) under Section 112 of the CAA. Several recent U.S. EPA air quality regulations on EGUs and other large sources (such as various types of boilers and incinerators) have the potential to significantly further reduce SO₂ emissions (e.g., CSAPR, MATS, and NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters). Permanent and enforceable control measures have led to reductions of SO₂ from point sources and other emission source sectors (e.g., Clean Air Non-road Diesel Rule, Highway Heavy Duty Engines Rule, and the application of tighter federal standards on new vehicles).

EGLE commits that any changes to its rules or emission limits applicable to SO₂ sources, as required for maintenance of the SO₂ standard at the Belle River power plant, will be submitted to the U.S. EPA for approval as a SIP revision. This will include, where appropriate, a demonstration based on modeling that the standard will be maintained. EGLE intends, upon redesignation, to apply Prevention of Significant Deterioration (PSD) Requirements rather than Emission Offsets for permitting any new sources or modifications. EGLE has the legal authority and necessary resources to actively enforce any violations of its rules or permit provisions. After redesignation, EGLE intends to continue enforcing all rules that relate to the emission of SO₂ in the former St. Clair County NAA.

2.4 Section 110 and Part D Requirements

Prior to redesignation, a state containing an NAA must demonstrate compliance with all requirements applicable to the area under Section 110 and Part D of the CAA. This means the state must meet all requirements that applied to the area prior to and at the time of submission of a complete request for redesignation to attainment.

2.4.1 Section 110 Clean Air Act (CAA) Requirements

2.4.1.1 Section 110 CAA Requirements

Section 110(a) of the CAA contains the general requirements for a SIP. Only the Section 110 requirements that are linked with a particular area's designations are the relevant measures to consider in evaluating a redesignation request. On July 10, 2014, EGLE submitted to the U.S. EPA an infrastructure SIP addressing the general SO₂ SIP requirements. The U.S. EPA subsequently approved the SIP submittal on November 12, 2015.

Further, EGLE believes that other Section 110 elements not connected with nonattainment plan submissions and not linked with an area's attainment status are also not applicable requirements for purposes of redesignation as a state remains subject to these requirements after an area is redesignated to attainment. The requirements of CAA Section 110(a)(2) that are statewide requirements and that are not linked to the SO₂ attainment status of the St. Clair SO₂ NAA are therefore not applicable requirements for purposes of review of EGLE's redesignation request.

2.4.1.2 CAA Part D Plan Requirements for Nonattainment Areas

Part D of the CAA contains requirements applicable to all areas designated nonattainment. SO₂ NAAs must meet the general provisions of Subpart 1 and specific SO₂ provisions in Subpart 5. The maintenance plan associated with this request for redesignation of the St. Clair SO₂ NAA is a SIP revision for an area designated as an NAA and meets the applicable requirements of Part D of Title 1 of the CAA.

2.4.1.3 Section 172(c) CAA Requirements

Section 172(c) of the CAA contains general requirements for nonattainment plans. These requirements include reasonable further progress, emission inventories, permitting provisions, and other measures for attainment. These requirements were not required because a CDD was submitted in place of an attainment demonstration. The U.S. EPA approved the CDD in December 2021.

2.4.1.4 Section 173 CAA Requirements

These provisions outline requirements related to permitting of air pollution sources in NAAs. An approvable SO₂ plan requires a demonstration that Michigan has a New Source Review (NSR) program in place for permitting new sources in NAAs as required by the CAA under Sections 172(c)(5) and 173. The CAA mandates the NSR program regulates permitting for the construction of new or modification of existing major stationary sources and requires lowest achievable emission rates. In addition, the permitted source must provide offsets for the remaining balance of emissions beyond the lowest achievable emission rates level of control.

Michigan's NSR approval can be found in the *Federal Register* at 78 FR 76064 (December 16, 2013). Therefore, another review of the NSR requirements is not included in this SIP.

2.4.1.5 Section 176(c) CAA Requirements

The EPA Guidance asserts the state must "...show that its SIP provisions are consistent with Section 176(c)(4) conformity requirements." Section 176(c) of the CAA requires states to establish criteria and procedures to ensure federally supported or funded activities, including highway projects, must conform to the air quality planning goals in the applicable SIPs. The two types of conformity requirements and Michigan's demonstration of compliance with them are listed below.

Transportation Conformity Requirements and Motor Vehicle Emission Budgets

Transportation conformity under Section 176(c) is the requirement to determine conformity. Michigan's transportation conformity SIP was approved by the U.S. EPA on December 18, 1996 (61 FR 66609) and was updated on April 10, 2017 (82 FR 17134). In addition, EGLE has a Memorandum of Agreement (MOA) among the Michigan Department of Transportation, the U.S. EPA, and various state and local agencies involved in the transportation process. The 2016 MOA Regarding Determination of Conformity of Transportation Plans, Programs, and Projects to State Implementation Plans was signed on December 13, 2016, by the U.S. EPA and is available on an AQD Web page⁴.

For purposes of the St. Clair County SO₂ NAA, conformity is not applicable. In its SO₂ NAA SIP guidance, the U.S. EPA states, due to the relatively small and decreasing amounts of sulfur in gasoline and on-road diesel fuel, the U.S. EPA's transportation conformity rules only apply to SO₂ NAAs in two cases: 1) if the Regional Administrator or the Director of a state air agency has found that transportation-related emissions of SO₂ as a precursor are a significant contributor to a PM_{2.5} nonattainment problem; or 2) if the SIP has established an approved or adequate budget for such emissions as part of the RFP, attainment or maintenance strategy (40 CFR 93.102(b)(1), (2)(v)). Conformity does not apply to this area because mobile sources are not considered a significant emitter of SO₂; therefore, they do not need to be further addressed in this SIP.

General Conformity Requirements

General conformity under Section 176(c) also requires conformity for all other non-transportation, federally supported or funded projects. Michigan's general conformity SIP was approved by the U.S. EPA on December 18, 1996 (61 FR 66607).

2.3.1.6 Section 191(a) CAA Requirements

Section 191(a) of the CAA identifies requirements related to nonattainment plan submission and attainment deadlines. EGLE has submitted a CDD that addresses such SIP requirements for the St. Clair SO₂ NAA.

⁴https://www.michigan.gov/documents/egle/egle-aqd-sdu-transportation_conformity_moa_671525_7.pdf

3.0 St. Clair County SO₂ Nonattainment Area Maintenance Plan

On July 1, 2016, the U.S. EPA designated a portion of St. Clair County as a single NAA under Subpart 1 of Section 107 of the CAA (78 FR 47191). Designations were made based on modeled SO₂ impacts of the two DTE power plants in the area. The only AQD SO₂ air monitor in the general vicinity is located in Port Huron and is approximately 12 miles from the power plants. This monitor was not included in the NAA and had not shown a violation of the SO₂ standard for many years. Included in the requirements for a redesignation request is for EGLE to submit and U.S. EPA to approve a SIP showing maintenance of the SO₂ NAAQS within the NAA for at least 10 years after redesignation.

According to the U.S. EPA's "*Procedures for Processing Requests to Redesignate Areas to Attainment*"¹ and "*Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions*"² states may generally demonstrate maintenance of the standard "by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emissions rates will not cause a violation of the NAAQS." Per U.S. EPA guidance, EGLE is relying on the modeling demonstration of this redesignation document to serve as a maintenance plan for the area since it relies on modeling based on maximum allowable emissions. This modeling is based on never-to-exceed maximum allowable rates that demonstrate attainment of the standard, and that the standard will be maintained for the requisite 10 years and beyond, without regard to any changes in operation rate in the pertinent sources that do not involve increases in maximum allowable emissions. The following plan has been developed in support of EGLE's request for redesignation.

The U.S. EPA's Redesignation Guidance states that the Maintenance Plan must consist of the following items:

- Attainment Inventory
- Demonstration of Maintenance
- Continued Operation of Monitoring Network
- Verification of Continued Attainment
- Contingency Plan

3.1 Attainment Inventory

The U.S. EPA's Redesignation Guidance³ requires states to identify the level of emissions in affected area sufficient to attain and maintain the NAAQS. To satisfy this requirement, EGLE is submitting the allowable SO₂ emissions that have been modeled to show attainment of the NAAQS in the NAA, and the emission values are contained in Table 2-7. The allowable limits for Belle River power plant are contained in revised permit number 51-22. The allowable emissions for St. Clair power plant are zero because the facility has permanently shut down.

3.2 Demonstration of Maintenance

3.2.1 Modeling

As mentioned in Section 3.0, EGLE is relying on modeling as the basis for demonstrating maintenance of the SO₂ NAAQS. In Section 2.1.2, it is discussed that AERMOD modeling results for the SO₂ NAA in St. Clair County showed total 1-hour SO₂ concentration values (i.e., maximum 1-hour SO₂ concentrations added to background concentration values) below the 1-hour SO₂ NAAQS of 75 ppb or 196.2 µg/m³. This modeling was based on never-to-exceed maximum-allowable rates that are protective of the standard. Because there are no large new sources of SO₂ projected to be constructed or resume operations in the NAA, the area can be expected to demonstrate attainment of the standard for the requisite 10 years and beyond.

EGLE has a longstanding and fully implemented NSR program. This program is addressed in the Michigan Part 2 air rules. The rules include provisions for the PSD program, which does not prevent sources from increasing emissions, instead it is designed to protect public health and welfare. This program will safeguard that economic growth will occur in a manner consistent with the preservation of existing clean air resources. This program will also guarantee that any decision to permit increased air pollution in any area to which this program applies is made only after careful evaluation of all consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision-making process. If a company were to notify EGLE of plans to construct or resume operations in the area, any emission unit would be subject to NSR requirements and modeling to ensure the area will continue to comply with the standard.

3.2.2 Projected Inventory

The U.S. EPA's Redesignation Guidance requires states to project emissions for at least the 10-year period following redesignation of the area to attainment. These emissions are shown in Table 3-1 and are based on the permitted emissions at the remaining major source of SO₂ in the St. Clair SO₂ NAA.

Because there are no large sources of SO₂ projected to be constructed or resume operations in the NAA, projected emissions to 2033 for the Belle River facility will be zero because DTE plans to convert fuel at the facility from coal to natural gas in the 2027 time frame. Currently, SO₂ emissions have been reduced at the Belle River facility from earlier years consistent with the tightened allowable emissions limits in permit number 51-22. SO₂ emissions for the St. Clair power plant are zero for the year 2033, with the facility ceasing operation in 2022.

As a result of the permanent and enforceable SO₂ strategies at the two DTE power plants, as well as any other reductions from national control regulations, SO₂ emissions in the St. Clair NAA have decreased significantly, and this confirms that the area will continue to maintain compliance with the standard.

Table 3-1: Projected SO₂ Emissions to 2033 Maintenance-Year for EGUs, St. Clair Nonattainment Area (tons per year)

Affected Source	2033 Projected Emissions (tpy)
DTE St. Clair power plant	0 ^a
DTE Belle River power plant	0 ^b
TOTAL	

^a This coal-fired power plant ceased operation in 2022. As a result, the facility's Acid Rain permit was revoked in December 2022.

^b This coal-fired power plant is expected to be converted from coal to natural gas in the 2027 time frame.

3.3 Monitoring Network

EGLE's SO₂ monitoring network does not include a monitor in the St. Clair County NAA, as described in Section 2.1.1 of this document. DTE voluntarily installed and operated two SO₂ monitors in the vicinity of the two power plants in late 2016 until the end of 2022 for purposes of determining whether the modeled violations of SO₂ in fact reflected ambient SO₂ impacts. The CDD for the area, approved by the U.S. EPA in 2021, and addressed in Section 2.2 of this document, describes the monitoring values of the two DTE monitors. Data showed that monitored SO₂ consistently stayed well below the SO₂ NAAQS for the 6 years that the monitors were operated.

EGLE has quality-assured all SO₂ data as listed in the CDD referenced above, in accordance with 40 CFR 50.17 and the Quality Assurance Manual. EGLE has recorded the data in the AQS database, and the data are available to the public.

3.4 Verification of Continued Attainment

According to U.S. EPA's *"Procedures for Processing Requests to Redesignate Areas to Attainment,"* each state should ensure that it has the legal authority to implement and enforce all measures necessary to attain and maintain the 2010 primary 1-hour NAAQS for SO₂. EGLE maintains the legal authority, necessary resources, and structural components of its air quality management program to implement and enforce all measures necessary to maintain the NAAQS.

To track the progress of the maintenance plan, EGLE commits to periodically reevaluate the modeling assumptions and input data used in the redesignation SIP development, as well as monitor contingency plan indicators as discussed in Section 3.5.

3.5 Contingency Plan

As required by Section 175A(b) of the CAA, EGLE commits to submit to the Administrator, 8 years after redesignation, an additional revision of the SIP. The revision will contain EGLE's plan for maintaining the 2010 primary 1-hour NAAQS for SO₂ for an additional 10 years beyond the first 10-year maintenance period after redesignation.

EGLE commits to adopt and expeditiously implement necessary corrective actions in the event future violations of the ambient standard occur.

3.5.1 Control Measure Selection and Implementation

Adoption of any additional control measure(s) is subject to the necessary administrative and legal process. This process will include posting of a notice for public comment on proposed control measures, an opportunity for public hearing, and other measures required by Michigan law for rulemaking.

If a new measure or control is already promulgated and scheduled to be implemented at the federal or state level and that measure or control is determined to be sufficient to address the upward trend in SO₂ emissions, additional local measures may be unnecessary. Furthermore, EGLE will submit to the U.S. EPA an analysis to demonstrate that the proposed measure(s) are adequate to return the area to attainment.

3.5.2 Contingency Measures

Contingency measures to be considered will be selected from a comprehensive list of measures deemed appropriate. Listed below are example measures that may be considered. The selection of measures will be based upon cost-effectiveness, emission reduction potential, economic and social considerations, or other factors that EGLE deems appropriate. EGLE will solicit input from all interested and affected persons in the maintenance area prior to selecting appropriate contingency measures. All of the listed contingency measures are potentially effective or proven methods of obtaining significant reductions of SO₂ emissions. Because it is not possible at this time to determine what control measure(s) will be appropriate at an unspecified time in the future, the list of contingency measures outlined below is not comprehensive. EGLE anticipates that if contingency measure(s) should ever be necessary, it is unlikely that a significant number (i.e., all those listed below) will be required.

1. Require alternative fuel
2. Require SO₂ emissions add-on control technologies for existing emission units
3. Require reduced operating hours
4. Require SO₂ emission offsets for new and modified major sources
5. Require SO₂ emission offsets for new and modified minor sources

No contingency measure shall be implemented without providing the opportunity for full public participation during which the relative costs and benefits of individual measures, at the time they are under consideration, can be fully evaluated.

4.0 Public Participation

In accordance with 40 CFR 51.102, public participation in this request was provided as follows:

Notice of availability of the complete document and a request for the opportunity for a public hearing was made available on EGLE's website on September 5, 2023, at <https://www.michigan.gov/egle/outreach/calendar>. It remained posted on the site until October 6, 2023.

EGLE did not receive any comments on the draft Redesignation document during the public comment period. The deadline during the public comment period to request a hearing was September 18, 2023, and a hearing was not requested. Therefore, a hearing was not held on the date of September 25, 2023, as provided for in the public comment notice.

A copy of the legal public notice as referenced in the EGLE Calendar and contained in the EGLE Air Quality Division website can be found in Appendix B.

5.0 Conclusions

The SO₂ NAA in a portion of St. Clair County has attained the 2010 primary 1-hour SO₂ standard. This redesignation document demonstrates that the area has complied with the applicable provisions of the CAA regarding redesignation of SO₂ NAAs. EGLE has prepared a Redesignation Request and Maintenance Plan that meets the requirements of Section 110(a)(1) of the CAA.

Based on this analysis, the SO₂ partial county NAA meets the requirements for redesignation under Section 107(d)(3) of the CAA and U.S. EPA guidance. EGLE has demonstrated that air quality improvements are due to permanent and enforceable measures. As a result of the SO₂ emission limits implemented at the DTE Belle River power plant and the closure of the St. Clair power plant, SO₂ emissions in the partial SO₂ NAA have decreased significantly, ensuring the area will continue to maintain compliance with the 2010 primary 1-hour SO₂ standard. EGLE has demonstrated in this SIP document that all CAA requirements necessary to support redesignation have been met.

Consistent with the authority granted to the U.S. EPA under Section 107(d)(3) of the CAA, EGLE requests that the SO₂ NAA in a portion of St. Clair County be redesignated from nonattainment to attainment for the 2010 primary 1-hour SO₂ standard simultaneously with U.S. EPA approval of the Redesignation Request and Maintenance Plan provisions contained herein.

APPENDIX A

**Air Quality System (AQS) Monitor Data
Values for the St. Clair County 2010
Primary 1-Hour SO₂ Nonattainment Area**

User ID: REAGEN

MAXIMUM VALUES REPORT

Report Request ID: 2119094

Report Code: AMP440

Jul. 17, 2023

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	26	147									

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
CRITERIA	42401		

MONITOR TYPE SELECTIONS

INDUSTRIAL

SELECTED OPTIONS

Option Type	Option Value
EVENTS PROCESSING	REPORT ALL EVENT RECORDS
MERGE PDF FILES	YES
AGENCY ROLE	PQAO

SORT ORDER

Order	Column
1	PARAMETER_CODE
2	STATE_CODE
3	DURATION_CODE
4	DATES
5	COUNTY_CODE
6	SITE_ID
7	POC
8	EDT_ID

DATE CRITERIA

Start Date	End Date
2017	2022

APPLICABLE STANDARDS

Standard Description
SO2 1-hour 2010

EXCEPTIONAL DATA TYPES

EDT	DESCRIPTION
0	NO EVENTS
1	EVENTS EXCLUDED
2	EVENTS INCLUDED
5	EVENTS WITH CONCURRENCE EXCLUDED

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 AIR QUALITY SUBSYSTEM
 MAXIMUM VALUES REPORT

Jul. 17, 2023

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2017

Primary:
 Secondary:
 Unit: Parts per billion

				Maximum Values								
Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT	
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID	
26-147-0913	3	St. Clair	600	170.0	143.0	140.0	114.0	113.0	101246		2	
		Port Huron		09/10:12	09/10:12	09/10:12	03/27:22	03/27:22				
				104.0	99.0	98.0	98.0	97.0				
				09/10:12	06/14:10	03/27:22	06/14:09	04/24:10				

				Maximum Values								
Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT	
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID	
26-147-0913	3	St. Clair	600	170.0	143.0	140.0	114.0	113.0	101246		5	
		Port Huron		09/10:12	09/10:12	09/10:12	03/27:22	03/27:22				
				104.0	99.0	98.0	98.0	97.0				
				09/10:12	06/14:10	03/27:22	06/14:09	04/24:10				

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2017

Primary:
 Secondary:
 Unit: Parts per billion

				Maximum Values								
Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT	
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID	
26-147-0914	3	St. Clair	600	119.0	113.0	111.0	106.0	102.0	102125		2	
		Port Huron		09/10:15	11/27:12	05/09:14	04/23:19	05/09:14				
				102.0	94.0	91.0	90.0	90.0				
				09/10:15	04/23:19	04/23:19	05/13:11	05/13:11				

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 AIR QUALITY SUBSYSTEM
 MAXIMUM VALUES REPORT

Jul. 17, 2023

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2018

Primary:
 Secondary:
 Unit: Parts per billion

Maximum Values

Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0914	3	St. Clair	600	244.0	226.0	226.0	212.0	199.0	102471		2
		Port Huron		05/12:18	05/12:18	05/12:19	05/12:19	05/12:19			
				197.0	179.0	170.0	169.0	163.0			
				05/12:18	05/12:18	04/02:11	05/12:17	05/12:17			

Maximum Values

Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0914	3	St. Clair	600	244.0	226.0	226.0	212.0	199.0	102471		5
		Port Huron		05/12:18	05/12:18	05/12:19	05/12:19	05/12:19			
				197.0	179.0	170.0	169.0	163.0			
				05/12:18	05/12:18	04/02:11	05/12:17	05/12:17			

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2019

Primary:
 Secondary:
 Unit: Parts per billion

Maximum Values

Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0913	3	St. Clair	600	101.0	101.0	93.3	92.3	85.9	102456		2
		Port Huron		06/17:19	06/17:19	06/17:19	06/17:19	06/17:19			
				85.0	83.7	80.5	77.9	72.8			
				10/09:12	06/17:19	06/18:10	06/17:18	06/17:19			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 AIR QUALITY SUBSYSTEM
 MAXIMUM VALUES REPORT

Jul. 17, 2023

Sulfur dioxide (42401)

State:	Michigan										Primary:
Duration:	5 MINUTE										Secondary:
Year:	2019										Unit: Parts per billion
Maximum Values											
Site ID	POC	County Name		1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name	Methods	6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0913	3	St. Clair	600	101.0	101.0	93.3	92.3	85.9	102456		5
		Port Huron		06/17:19	06/17:19	06/17:19	06/17:19	06/17:19			
				85.0	83.7	80.5	77.9	72.8			
				10/09:12	06/17:19	06/18:10	06/17:18	06/17:19			

Sulfur dioxide (42401)

State:	Michigan										Primary:
Duration:	5 MINUTE										Secondary:
Year:	2019										Unit: Parts per billion
Maximum Values											
Site ID	POC	County Name		1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name	Methods	6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0914	3	St. Clair	600	78.1	74.0	72.8	71.8	71.1	102445		2
		Port Huron		10/08:13	06/18:13	06/28:13	06/29:14	06/18:13			
				68.1	67.1	66.0	65.8	65.2			
				06/22:19	05/05:14	06/22:19	06/17:18	06/29:14			

Maximum Values

Site ID	POC	County Name		1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name	Methods	6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0914	3	St. Clair	600	78.1	74.0	72.8	71.8	71.1	102445		5
		Port Huron		10/08:13	06/18:13	06/28:13	06/29:14	06/18:13			
				68.1	67.1	66.0	65.8	65.2			
				06/22:19	05/05:14	06/22:19	06/17:18	06/29:14			

Sulfur dioxide (42401)

State:	Michigan										Primary:
Duration:	5 MINUTE										Secondary:
Year:	2020										Unit: Parts per billion

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 AIR QUALITY SUBSYSTEM
 MAXIMUM VALUES REPORT

Jul. 17, 2023

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2020

Primary:
 Secondary:
 Unit: Parts per billion

Maximum Values

Site ID	POC	County Name	City Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
26-147-0913	3	St. Clair	Port Huron	600	107.0	82.6	77.7	77.2	68.0	102647		2
					09/19:12	09/20:12	09/19:12	06/08:10	09/19:14			
					66.9	66.8	66.4	65.9	65.2			
					09/19:13	06/08:10	09/19:12	09/19:11	06/08:10			

Maximum Values

Site ID	POC	County Name	City Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
26-147-0913	3	St. Clair	Port Huron	600	107.0	82.6	77.7	77.2	68.0	102647		5
					09/19:12	09/20:12	09/19:12	06/08:10	09/19:14			
					66.9	66.8	66.4	65.9	65.2			
					09/19:13	06/08:10	09/19:12	09/19:11	06/08:10			

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2020

Primary:
 Secondary:
 Unit: Parts per billion

Maximum Values

Site ID	POC	County Name	City Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
26-147-0914	3	St. Clair	Port Huron	600	125.0	83.1	74.3	62.8	60.0	102782		2
					08/31:12	08/12:14	08/31:11	06/08:13	07/05:13			
					55.5	54.7	53.8	52.3	51.8			
					07/05:13	06/09:12	06/08:13	07/05:12	07/05:13			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 AIR QUALITY SUBSYSTEM
 MAXIMUM VALUES REPORT

Jul. 17, 2023

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2020

Primary:
 Secondary:
 Unit: Parts per billion

Maximum Values

Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0914	3	St. Clair	600	125.0	83.1	74.3	62.8	60.0	102782		5
		Port Huron		08/31:12	08/12:14	08/31:11	06/08:13	07/05:13			
				55.5	54.7	53.8	52.3	51.8			
				07/05:13	06/09:12	06/08:13	07/05:12	07/05:13			

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2021

Primary:
 Secondary:
 Unit: Parts per billion

Maximum Values

Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0913	3	St. Clair	600	168.0	164.0	130.0	126.0	125.0	95302		2
		Port Huron		06/12:10	06/12:10	06/12:10	06/12:10	06/12:10			
				111.0	103.0	96.0	92.9	92.8			
				07/28:11	07/28:11	06/11:17	06/11:16	07/28:11			

Maximum Values

Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID
26-147-0913	3	St. Clair	600	168.0	164.0	130.0	126.0	125.0	95302		5
		Port Huron		06/12:10	06/12:10	06/12:10	06/12:10	06/12:10			
				111.0	103.0	96.0	92.9	92.8			
				07/28:11	07/28:11	06/11:17	06/11:16	07/28:11			

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2021

Primary:
 Secondary:
 Unit: Parts per billion

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 AIR QUALITY SUBSYSTEM
 MAXIMUM VALUES REPORT

Jul. 17, 2023

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2021

Primary:
 Secondary:
 Unit: Parts per billion

				Maximum Values									
Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT		
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID		
26-147-0914	3	St. Clair	600	129.0	122.0	122.0	108.0	108.0	102515		2		
		Port Huron		06/12:16	05/14:12	06/12:15	06/12:15	06/12:16					
				100.0	97.1	92.2	91.8	91.8					
				06/12:15	06/12:14	06/12:15	06/09:14	06/12:14					

				Maximum Values									
Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT		
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID		
26-147-0914	3	St. Clair	600	129.0	122.0	122.0	108.0	108.0	102515		5		
		Port Huron		06/12:16	05/14:12	06/12:15	06/12:15	06/12:16					
				100.0	97.1	92.2	91.8	91.8					
				06/12:15	06/12:14	06/12:15	06/09:14	06/12:14					

Sulfur dioxide (42401)

State: Michigan
 Duration: 5 MINUTE
 Year: 2022

Primary:
 Secondary:
 Unit: Parts per billion

				Maximum Values									
Site ID	POC	County Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT		
		City Name		6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID		
26-147-0913	3	St. Clair	600	80.3	77.6	74.0	72.8	72.7	101911		2		
		Port Huron		04/28:19	04/28:19	04/28:19	04/22:14	04/28:19					
				70.4	68.1	67.8	67.7	66.1					
				08/27:15	04/28:18	03/29:15	02/15:13	05/08:16					

APPENDIX B

Public Participation Process Documentation



Public Notice for Air Quality Rules and State Implementation Plans

EGLE’s Air Quality Division (AQD) has portions of its State Implementation Plan and/or Air Pollution Control Rules open for comment from the public. The complete Michigan SIP is a cumulative record of hundreds of documents developed in phases and for various purposes over many years. As federal requirements change States must add to, delete from, or revise components in the SIP. The Michigan SIP contains rules, statutes, permits, consent orders, plans, emissions inventories and budgets. The plan also contains binding commitments to take future actions under specific circumstances: Michigan’s Air Pollution Control Rules are made up of multiple “parts” each covering its own subject matter and/or pollutants, which often need updating. It’s also possible the AQD needs to create new rules to address air quality issues in the state. More information on any actions open for comment are listed below.

The following action(s) are open for comment as indicated in their respective announcements:
Public Comment Period for the Request for Redesignation and Maintenance Plan for Attainment of the Partial St. Clair County 2010 Primary 1-Hour Sulfur Dioxide Nonattainment Area 1

Public Comment Period for the Request for Redesignation and Maintenance Plan for Attainment of the Partial St. Clair County 2010 Primary 1-Hour Sulfur Dioxide Nonattainment Area

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) opened a public comment period for revisions to Michigan’s State Implementation Plan on September 5, 2023, which will remain open through October 6, 2023. The purpose of the public comment period and potential public hearing are to allow all interested parties an opportunity to comment on the proposed revision.

Proposed SIP Revision:

EGLE has requested the United States Environmental Protection Agency redesignate a portion of St. Clair County be changed from nonattainment for sulfur dioxide to attainment. The document, [Request for Redesignation and Maintenance Plan for Attainment of the Partial St. Clair County 2010 Primary 1-Hour Sulfur Dioxide Nonattainment Area](#) is available at this link, and is provided as one of many documents on our State Implementation website (link below) under the “SIP and other Submittals” heading.

The public is encouraged to review the proposed documents which can be found posted on our [State Implementation Plan \(SIP\) and Attainment website](#) and present comments through the end of the public comment period. All statements received during the public comment period and public hearing will be considered by the Air Quality Division (AQD). After consideration, EGLE may submit the rule(s) for promulgation as written, submit

it/them with minor revisions, or make major changes that will require a repeat of the public comment period.

Submitting Comments:

There are several ways to submit comments on the proposed rule revisions.



Email your comment to irviner@Michigan.gov. Please include “Comments on St. Clair County SO2 redesignation” in the subject line.



Mail your comment to Bob Irvine, EGLE, Air Quality Division, SIP Development Unit, P.O. Box 30260, Lansing, Michigan 48909-7760.



Or, at the public hearing.

A public hearing will be held on September 25th, if requested by September 13th. with information on how to attend posted on the AQD’s webpage at Michigan.gov/Air.

Individuals without internet access and who are interested in receiving printed copies of the documents related to the proposed rule revisions or who need accommodations or other assistance to effectively participate in the hearing should contact Lorraine Hickman at 517-582-3494 or HickmanL@Michigan.gov.

This public notice is given in accordance with the Administrative Procedures Acts and federal regulations.

EGLE promotes the equitable treatment and meaningful involvement of Michigan’s residents regarding the development, implementation, and enforcement of laws, regulations, and policies. Equitable treatment means that no group of people bears a disproportionate share of the negative consequences resulting from governmental, industrial, or commercial operations and policies. Meaningful involvement means all people have an opportunity to participate in decisions that affect their environment and/or health.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.