



west virginia department of environmental protection

**Redesignation Request
and
Maintenance Plan
for the
Marshall, West Virginia
2010 1-hour Sulfur Dioxide (SO₂) Nonattainment Area,
Comprising the Clay, Franklin, and Washington Tax
Districts of Marshall County**

**Proposed
February 2020**

West Virginia Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Promoting a healthy environment.

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Acronyms and Abbreviations

AEP	American Electric Power
AERR	Air Emissions Reporting Requirement
AMPD	Air Market Program Data
AQS	Air Quality System
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CSAPR	Cross-State Air Pollution Rule
CSR	Code of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
EGU	Electric(ity) Generating Unit
EIS	Emissions Inventory System
EMF	Emissions Modeling Framework
EPA	Environmental Protection Agency
FGD	Flue Gas Desulfurization
FIP	Federal Implementation Plan
FR	Federal Register
GEP	Good Engineering Practice
iSIP	Infrastructure Statement Implementation Plan
km	kilometer
lb/hr	Pounds per Hour
lb/MMBtu	Pounds per Million British Thermal Units
LLC	Limited Liability Company
LULC	Land Use and Land Cover
m	Meter
MOVES	Motor Vehicle Emission Simulator
MPO	Metropolitan Planning Organization
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standard

Acronyms and Abbreviations (Continued)

NED	National Elevation Dataset
NEI	National Emissions Inventory
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxide
NSR	New Source Review
NWS	National Weather Service
OH	Ohio
Pb	Lead
PM _{2.5}	Particulate Matter (diameter of less than 2.5 micrometers)
ppb	Parts per Billion
PPG	Pittsburgh Plate Glass
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance/Quality Control
RACM	Reasonably Available Control Measure
RACT	Reasonably Available Control Technology
SCC	Source Classification Code
SCR	Selective Catalytic Reduction or Selective Catalytic Reactor
SIP	State Implementation Plan
SLAMS	State or Local Air Monitoring Station
SLEIS	State and Local Emissions Inventory System
SO ₂	Sulfur Dioxide
SO _x	Sulfur Oxides
TIP	Tribal Implementation Plan
tpy	Tons per Year
µg/m ³	Microgram per Cubic Meter
U.S.	United States
UTM	UAS Traffic Management
WV	West Virginia

**Redesignation Request and Maintenance Plan
for the Marshall, West Virginia
2010 1-hour Sulfur Dioxide (SO₂) Nonattainment Area,
Comprising the Clay, Franklin, and Washington Tax Districts of
Marshall County**

I. INTRODUCTION

The Marshall, West Virginia (WV) 2010 1-hour sulfur dioxide (SO₂) nonattainment area includes the Clay, Franklin, and Washington Tax Districts of Marshall County, WV. The area was designated as nonattainment with the 2010 1-hour SO₂ National Ambient Air Quality Standard (NAAQS) in the August 5, 2013 Federal Register (FR), effective October 4, 2013 [78 FR 47191].

On April 15, 2015, the West Virginia Division of Air Quality (DAQ) submitted a clean data request for the Marshall, WV area based on air monitoring data certified in the United States Environmental Protection Agency's (EPA) Air Quality System (AQS) for the 2011-2013 period with a design value of 59 parts per billion (ppb) at the monitor on which the nonattainment designation was based. Even though the EPA identified this area as nonattainment, based on 2009-2011 air monitoring data from the only monitor with SO₂ monitoring instrumentation in the area, on September 23, 2015, EPA "determined that while the Marshall Area has three years of clean SO₂ data, the demonstration provided the West Virginia Department of Environmental Protection is not sufficient to show that the monitor is located at the area of maximum concentration. Because of this, EPA believes it is not appropriate to make a determination of attainment in accordance with the SO₂ clean data policy at this time."

In addition to 2011-2013, the area's monitoring data continue to support attainment for the 2010 1-hour SO₂ standard with design values for 2012-2014 of 47 ppb, 2013-2015 of 41 ppb, 2014-2016 of 30 ppb, 2015-2017 of 18 ppb, 2016-2018 of 8 ppb and 2017-2019 (data for 2019 is preliminary) of 8 ppb.

A. Request

The State of West Virginia is requesting that the EPA redesignate the Marshall, WV 2010 1-hour SO₂ nonattainment area to attainment pursuant to the provisions of Clean Air Act (CAA) Section 107. The State is also requesting the EPA concurrently approve the associated

maintenance plan, which demonstrates that the area will continue to meet the current SO₂ air quality standards for at least ten (10) more years, as a revision to the State Implementation Plan (SIP), meeting the requirements of CAA Section 175A.

B. Background

Based on EPA's review of the air quality criteria for oxides of sulfur (SO_x) and the primary NAAQS for SO_x as measured by SO₂, EPA revised the primary SO₂ NAAQS to provide the requisite protection of public health with an adequate margin of safety, especially for children, the elderly, and those with asthma. The revised 1-hour SO₂ standard is set at a level of 75 ppb. This standard is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations is less than or equal to 75 ppb, as determined in accordance with Appendix T of 40 CFR Part 50. The EPA signed the final rule revising the primary SO₂ NAAQS on June 2, 2010. The rule was published in the Federal Register on June 22, 2010 [75 FR 35520]; and became effective on August 23, 2010. The EPA also provided provisions in the rule to revoke both the existing 24-hour and annual primary SO₂ standards.

On August 5, 2013, the EPA promulgated the initial SO₂ nonattainment area designations for the 2010 1-hour SO₂ NAAQS, with an effective date of October 4, 2013 [78 FR 47191]. The basis for establishing these areas as nonattainment was monitored air quality from 2009-2011 indicating a violation of the NAAQS. The CAA directs states to develop SIPs that meet the requirements of Section 172(c) and Sections 191-192, while providing for attainment of the NAAQS as expeditiously as practicable, but no later than five (5) years from the date such area was designated nonattainment under Section 107(d). The CAA instructs states with SO₂ nonattainment areas to submit these plans within 18 months of the effective date of the designations (April 6, 2015) detailing how the SO₂ standards would be attained by October 4, 2018.

Two areas in West Virginia were included in the initial SO₂ nonattainment area designations:

- Steubenville, OH-WV – Brooke County (part) – an area consisting of the Cross Creek Tax District – with a 2009-2011 design value of 119 ppb; and

- Marshall, WV – Marshall County (part) – an area consisting of the Clay, Franklin, and Washington Tax Districts – with a 2009-2011 design value of 80 ppb.

The CAA requires areas failing to meet a NAAQS to develop SIPs to expeditiously attain and maintain the standard. However, areas that attain before the required date may be exempt from certain otherwise applicable requirements.

On March 18, 2016, the EPA issued a final rule, *Findings of Failure to Submit State Implementation Plans Required for Attainment of the 2010 1-Hour Primary Sulfur Dioxide National Ambient Air Quality Standard (NAAQS)* [81 FR 14736], for 16 areas in 11 states, including two areas in West Virginia; the Marshall area, and the Steubenville (OH-WV), Brooke County area.

On March 17, 2017, West Virginia submitted, and requested the EPA to approve as a revision to the SIP, the *Attainment Demonstration for the 1-hour National Ambient Air Quality Standard for Sulfur Dioxide (SO₂) State Implementation Plan Revision for the Marshall, West Virginia Nonattainment Area Comprised of the Clay, Franklin, and Washington Tax Districts of Marshall County* (Attainment Demonstration). The Attainment Demonstration had a projected attainment date of October 4, 2018 and included the 2011 base year inventory required under CAA Section 172(c)(3).

On September 27, 2017, the EPA sent a letter notifying West Virginia Department of Environmental Protection (DEP) that submittal became complete by operation of law on September 20, 2017. The letter acknowledged “that the submittal corrects the deficiency identified in EPA’s March 18, 2016 findings of failure to submit SO₂ SIPs [81 FR 14736] as it relates to the Marshall, West Virginia nonattainment area.” Therefore, the sanctions clock triggered by the findings for this area was turned off.

C. Geographic Description

The Marshall, WV 2010 1-hour SO₂ nonattainment area includes the Clay, Franklin, and Washington Tax Districts of Marshall County, WV. This area is shown in Figure 1 under Section II.A.1.

II. REDESIGNATION CRITERIA

Pursuant to Section 107(d)(3)(E) of the CAA, states must sufficiently address five (5) issues to obtain redesignation of a nonattainment area to attainment:

- A. determine that the area has attained the applicable NAAQS;
- B. have a fully approved applicable implementation plan under CAA Section 110(k);
- C. show that the improvement in air quality is due to permanent and enforceable emission reductions;
- D. submit an EPA approvable maintenance plan which ensures attainment of the NAAQS for at least ten (10) years beyond redesignation; and
- E. show that the area has met the applicable requirements of Section 110 and Part D of the CAA.

The State of West Virginia herein affirmatively completes all five (5) of the required elements as detailed below.

A. The Marshall, WV Area Has Attained the 2010 1-hour SO₂ Standard

EPA's April 2014, *Guidance for the 1-Hour SO₂ Nonattainment Area SIP Submissions*, Section VIII. Redesignation to Attainment of SO₂ Nonattainment Areas, subsection A. Attainment of the NAAQS, states:

...the EPA may also make determinations based on modeling from the attainment demonstration for the applicable SIP for the affected area, eliminating the need for separate actuals-based modeling to support a redesignation request. A demonstration that the control strategy in the SIP has been fully implemented (compliance records demonstrating that the control measures have been implemented as required by the approved SIP) would also be relevant for making this determination. An additional SIP submittal from the air agency would not be required by the CAA, and if the agency has previously submitted a modeled attainment demonstration, using allowable emissions, no further modeling would be needed as long as the source characteristics (e.g. factors affecting plume height) are still reasonably represented.¹

¹ Memorandum from Stephen D. Page, Director, Office of Air Quality Planning and Standards, U.S. EPA, Research Triangle Park

For the Marshall Area, the attainment demonstration and SO₂ emission limits submitted on March 17, 2017 have not been approved by EPA into the SIP. However, with this redesignation request, WVDEP is submitting a maintenance plan to show that the Marshall Area will attain for a period of 10 years, including a consent order with new SO₂ emission limits for Mitchell Power Plant and a modeling demonstration that shows these limits will assure attainment in the Area. WVDEP is requesting that the consent order be incorporated into the West Virginia SIP. The modeling demonstration in this submission uses allowable emissions, and so long as Mitchell is meeting its allowable limits, and the source characteristics are consistent with the demonstration, such modeling is likely more stringent than modeling based on past actual emissions to show that the area is attaining. The requirements under the consent order were effective on January 1, 2020.

1. Monitoring

The Ambient Air Monitoring Network in the Marshall, WV nonattainment area consists of a single State and Local Air Monitoring Station (SLAMS) network monitoring location in Marshall County, WV having SO₂ monitoring instrumentation. The site is located at the Moundsville National Guard Armory, in Moundsville, Marshall County, WV. The location of the monitoring site is shown in Figure 1. Table 1 shows the annual 99th percentile of 1-hour daily maximum concentrations for 2007-2019 for the monitor. A list of the design values based on the 3-year averages of annual 99th percentile of 1-hour daily maximum concentrations from 2007-2009 through 2017-2019 is shown in Table 2. Air monitoring data is located in Appendix A.

The data in Appendix A has been quality assured up through 2018 in accordance with 40 CFR 58.10 and all other federal requirements. The data has been recorded in the AQS database (<https://www.epa.gov/outdoor-air-quality-data>) and is publicly available. Data for 2019 is preliminary, since it has not been certified.

Figure 1. Map of the Marshall, WV Area SO₂ Monitoring Site Location

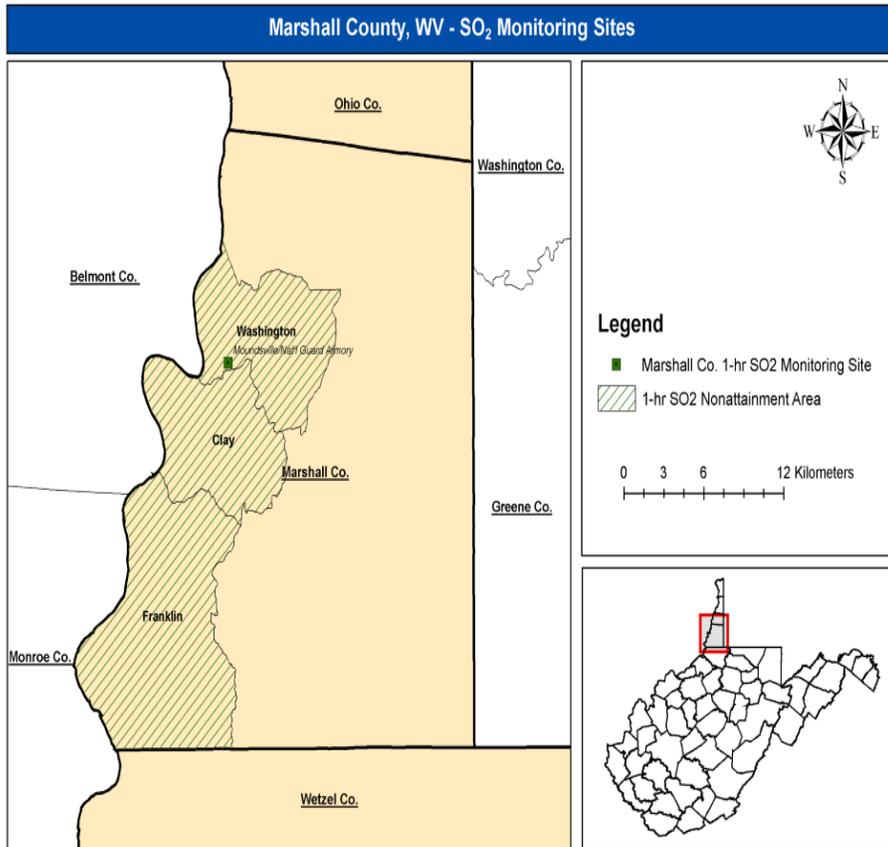


Table 1: Marshall, WV Nonattainment Area Annual 99th Percentile of 1-hour Daily Maximum SO₂ Concentration

Monitor	ID	Annual 99 th Percentile of 1-hour Daily Maximum SO ₂ Concentration (ppb)												
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*
Moundsville National Guard Armory	54-051-1002	161	113	61	101	79	55	43	43	38	8	7	9	9

*Data for 2019 is preliminary.

Table 2: Marshall, WV Nonattainment Area 1-hr SO ₂ Design Values													
Monitor	Tax District	ID	Design Value (ppb)										
			2007-09	2008-10	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19*
Mounds-ville National Guard Armory	Washington	54-051-1002	112	92	80	78	59	47	41	30	18	8	8

*Data for 2019 is preliminary.

The EPA designated this area as nonattainment based on 2009-2011 air monitoring data. SO₂ ambient air quality monitoring data for the 7 most recent 3-year periods (2011-2013, 2012-2014, 2013-2015, 2014-2016, 2015-2017, 2016-2018, 2017-2019[data for 2019 is preliminary]) demonstrates that the air quality meets the NAAQS for the 2010 1-hour SO₂ standard in this nonattainment areas.

On September 23, 2015, the EPA denied DEP’s request for a clean data determination based on monitoring data for 2011-2013, stating at that time, they did not believe it was appropriate to make a determination of attainment in accordance with the SO₂ clean data policy. Therefore, DAQ demonstrated the Marshall, WV has attained the 2010 1-hour SO₂ standard based on dispersion modeling, submitted with the March 17, 2017 Attainment Demonstration. The modeled attainment demonstration was based on the allowable emissions from the Mitchell Plant, and accounted for reductions in emissions as a result of the permanent retirement of the Kammer Plant; the closure of the Rain CII Carbon facility; the closure of the R.E. Burger Plant; as well as Eagle Natrium, LLC (formerly PPG) implementing a fuel switch from coal to natural gas. Documentation of local SO₂ reductions is provided in Appendix D. Since the source characteristics have not changed, no additional modeling is required.

There has been a clear downward trend in design values for all monitors in West Virginia, as shown in Figure 2. Design values have also trended downward nationally, as shown in Figure 3.

Figure 2. West Virginia 1-Hour SO₂ Design Values, 2007-2009 through 2016-2018

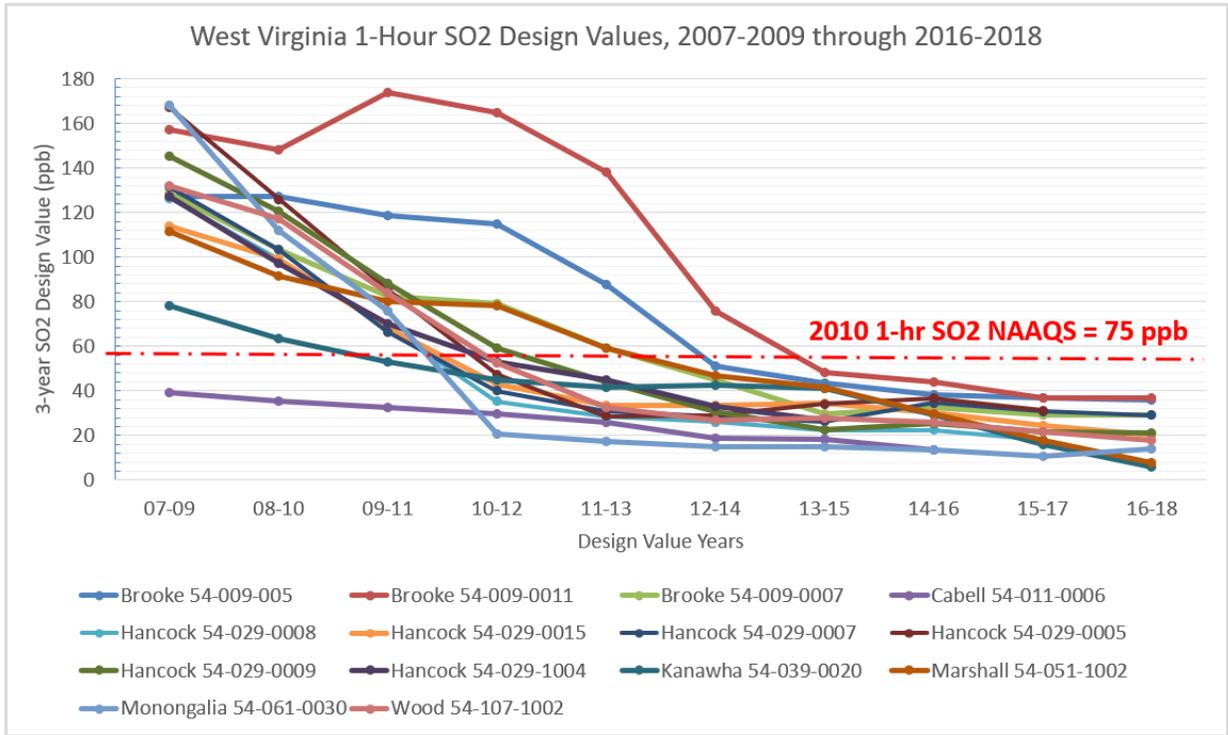
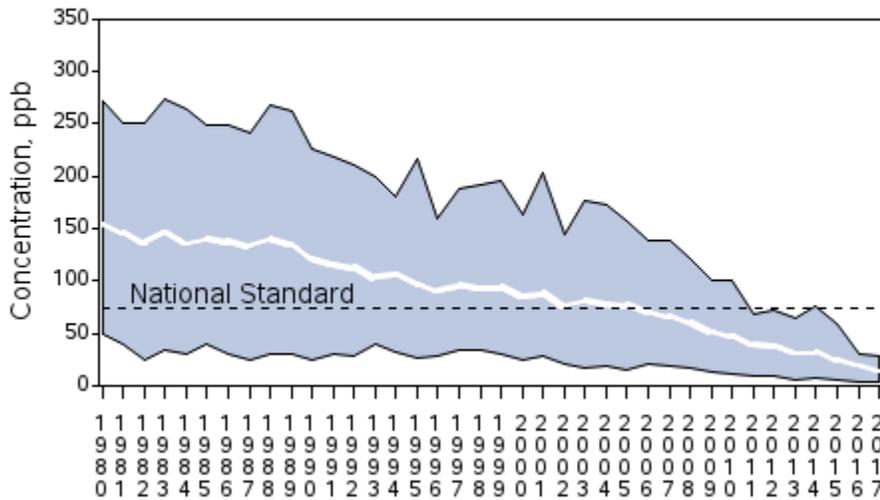


Figure 3. SO₂ National Trends

SO₂ Air Quality, 1980 - 2017
 (Annual 99th Percentile of Daily Max 1-Hour Average)
 National Trend based on 42 Sites



DAQ commits to continue monitoring SO₂ levels at the West Virginia site indicated in Figure 1 and Table 1. DAQ will consult with EPA Region III prior to making changes to the existing monitoring network, should changes become necessary in the future. DAQ will continue to quality assure the monitoring data to meet the requirements of 40 CFR 58 and all other federal requirements. Connection to a center station and updates to the DAQ website will provide real time availability of the data and knowledge of any exceedances. DAQ will enter all data into AQS on a timely basis in accordance with federal guidelines.

2. Modeling

A dispersion modeling analysis was performed to demonstrate attainment with the 1-hr SO₂ NAAQS. American Electric Power (AEP) performed the modeling analysis for this SIP in accordance with the final protocol as reviewed and approved by West Virginia DEP. This section contains a summary of these modeling efforts with the modeling protocol and full modeling analysis details contained in Appendix C. The modeling protocol includes a discussion of Good Engineering Practice (GEP) stack height for the Mitchell Power Plant.

During the comment period for the Attainment Demonstration EPA raised the issue of the GEP stack height for Mitchell, and generally disagreed with the DEP's contention that the original stack height establishes the GEP stack height for stacks built after the GEP rule became effective. As stated in the Response to Comments for the Attainment Demonstration, a lengthy administrative record exists supporting the use of a fully creditable stack height of 1,000 feet for the new flue gas desulfurization (FGD) stack for the Mitchell Power Plant. Additional supporting documentation is included in Appendix C.

AEP has conducted an additional modeling analysis based on an alternative modeled stack height of 183.67 meters. This additional modeling analysis was performed in accordance with the approved, final modeling protocol with the following changes: version 18081 of AERMOD and AERMET; a revised background concentration value of 6.0 ppb; and an alternative stack height of 183.67 meters. The final AEP sulfur dioxide emission rate limit is based on this additional modeling analysis.

a. Source Inventory

The only significant point source of SO₂ emissions currently operating in Marshall County is the Mitchell Power Plant. The other significant sources of SO₂ emissions in Marshall County

that historically contributed to the design values at the Moundsville ambient air quality monitor have ceased operation or switched fuel sources to fuels with extremely low sulfur content. Therefore, the only source identified to be explicitly modeled for this SIP demonstration is the AEP Mitchell Power Plant.

b. Source Characterization

The Mitchell Plant consists of two coal-fired electric generating units rated at ~ 800 megawatts (MW) net each, equipped with an electrostatic precipitator for particulate control, selective catalytic reduction (SCR) for control of nitrogen oxides (NO_x) and a limestone-based FGD system for SO₂ control. The plant is located in the Ohio River Valley in Marshall County approximately 11 kilometers (km) southwest of Moundsville. The AERMOD Model provides for emission sources to be represented as point, area, or volume sources where stacks are generally characterized as point sources and fugitive emissions as an area or volume source depending on the specifics of the release in terms of areal coverage, inside or outside a building, vertical extent, etc. Sources in this modeling analysis are modeled as point sources. A load analysis was performed at full load (5222.07 lb/hr total for both units), 75% load (3916.58 lb/hr total for both units), and 50% load (2611.08 lb/hr total for both units) for the electric generating units (EGUs).

c. Model Selection

Dispersion models predict pollutant concentrations downwind of a source by simulating the evolution of the pollutant plume over time and space given data inputs that include the quantity of emissions and the initial exhaust release conditions (e.g., velocity, flow rate, and temperature). The USEPA-recommended AERMOD Model (Version 18081) was used in default mode for this analysis. AERMOD is a refined, steady-state (both emissions and meteorology over a one-hour time step), multiple source, dispersion model that was promulgated by USEPA in December 2005 as the preferred model to use for industrial sources in this type of air quality analysis. Following procedures outlined in the *Guideline on Air Quality Models*, the AERMOD modeling was performed using the regulatory default options in all cases.

d. Meteorological Data

To perform the transport and dispersion modeling analysis in AERMOD, the procurement and pre-processing of meteorological data is required. The AERMET program (Version 18081)

is the companion program to AERMOD that generates both a surface file and vertical profile of meteorological observations and turbulence parameters pertinent to the use of AERMOD. AERMET meteorological data are refined for a particular analysis based on the choice of micrometeorological parameters that are linked to the land use and land cover (LULC) around the particular meteorological site.

AERMET processing is performed in a 3-stage system. The first stage reads and performs quality assurance/quality control (QA/QC) on the raw National Weather Service (NWS) surface and upper air data files. The second stage synchronizes the observation times and merges the surface and upper air files. The third stage incorporates user-specified micrometeorological parameters (albedo, Bowen Ratio, and surface roughness) with the observed meteorological data and computes specific atmospheric variables for use in the AERMOD Model. These variables are used to characterize the state of the atmosphere and its related turbulence and transport characteristics, including wind speed, wind direction, convective velocity, friction velocity, Monin-Obukhov Length, convective and mechanical mixing heights, etc. Meteorological input files for this modeling analysis were developed by using the most current version of the AERMET program (Version 15181).

AEP utilized 5 years (2011-2015) of meteorological data collected at the Wheeling Airport (KHLG) as the source of surface data. One-minute and five-minute data for processing in AERMINUTE was also sourced from the Wheeling Airport site and upper air data was sourced from the Pittsburgh International Airport.

e. Receptor Grids

The receptors utilized for the dispersion modeling analysis are identified to evaluate the impacts in the prescribed area. The receptor grid used National Elevation Dataset (NED) data processed through AERMAP at the following resolutions: 100 meter (m) spacing to 4 km, 250 m spacing to 5 km, 500 m spacing to 7 km, 1 km spacing to 10 km, and 2 km spacing to 52 km.

f. Ambient Background Concentration

The uniform background value used in this SIP demonstration is 6.0 ppb (15.7 $\mu\text{g}/\text{m}^3$). This value was developed using the data from the Moundsville, WV SO₂ Monitor (54-051-1002)

for the years 2016 through 2018 and concurrent Wheeling Airport meteorology. Details on the development of the background concentration value is located in Appendix C.

g. Discussion of Results

The results from this analysis are displayed in Table 3. As shown in the table, the model results demonstrate attainment of the NAAQS.

Table 3. Modeling Analysis Results				
Mitchell Load	Maximum Model Output including background ($\mu\text{g}/\text{m}^3$)	UTM East	UTM North	NAAQS Standard
Full	196.2	516,375.5	4,409,220	196.5
75%	187.9	516,375.5	4,409,320	196.5
50%	175.5	519,575.5	4,410,020	196.5

A detailed modeling analysis report can be found in Appendix C.

The air dispersion modeling results, supported by the air monitoring data, and the decreases in emission levels discussed in Section III, support a redesignation to attainment for the Marshall, WV, comprising the Clay, Franklin, and Washington Tax Districts of Marshall County, WV based on the requirements in CAA Section 107(d)(3)(E).

B. The Marshall, WV Area Has Submitted an Approvable SIP Under Section 110(k) of the CAA

On August 5, 2013, EPA promulgated the initial SO₂ nonattainment area designations for the 2010 1-hour SO₂ NAAQS for certain areas in the United States (U.S.), including the Marshall, WV area. An effective date was set at October 4, 2013 [78 FR 47191]. The CAA requires states with SO₂ nonattainment areas to submit a plan within 18 months of the effective date of the designations (April 6, 2015) detailing how the SO₂ standards would be attained by October 4, 2018.

On March 17, 2017, West Virginia submitted, and requested the EPA approve as a revision to the SIP, the *Attainment Demonstration for the 1-hour National Ambient Air Quality Standard*

for Sulfur Dioxide (SO₂) State Implementation Plan Revision for the Marshall, West Virginia Nonattainment Area Comprised of the Clay, Franklin, and Washington Tax Districts of Marshall County. The attainment demonstration included a plan detailing how the standard would be met by October 4, 2018, and modeling results demonstrating that the standard would be met. On September 27, 2017, the EPA notified DEP that the submittal became complete by operation of law. Therefore, all applicable requirements under CAA Section 110(k) have been met.

C. The Marshall, WV Area’s Air Quality Improvements is Due to Permanent and Enforceable Emissions Reductions

In addition to the retirement and/or permanent closure of contributing facilities, as well as others switching fuel sources, several federally enforceable control measures have been implemented during the past decade which contribute to the air quality improvement and will continue to reduce emissions in the future. These are discussed in detail in Section V – Control Measures and Regulations.

D. The State Has Developed a Maintenance Plan for the Marshall, WV Area Which Ensures Attainment of the 2010 1-hour SO₂ Standard for at least Ten (10) Years

Section 107(d)(3)(E) of the CAA stipulates that for an area to be redesignated to attainment, EPA must approve a maintenance plan that meets the requirements of Section 175A. A state may submit both the redesignation request and maintenance plan at the same time, and the plan adoption process, including rule-making or public hearing proceedings, may proceed on a parallel track. West Virginia is herein submitting a request to redesignate the Marshall, WV area to attainment and is also requesting that EPA concurrently process this request and the associated maintenance plan. Section III contains the Maintenance Plan.

E. The Marshall, WV Area Has Met All Relevant Requirements Under Section 110 and Part D of the CAA

For purposes of redesignation, a state must meet all requirements of Section 110 and Part D of the CAA that were applicable prior to submittal of the complete redesignation request. In April 2014, EPA distributed a non-binding guidance titled, *Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions* (SO₂ SIP Guidance). This document was intended to provide guidance and recommendations to state, local, and tribal governments for the development

of SIPs and tribal implementation plans (TIPs) for areas designated as nonattainment for the primary 2010 1-hour SO₂ NAAQS.

Subpart 1 of Part D of the CAA consists of general requirements applicable to all areas which were designated nonattainment based on a violation of the NAAQS. Subpart 5 of Part D of the CAA consists of more specific requirements applicable to SO_x, nitrogen dioxide (NO₂), or lead (Pb).

1. Section 110(a) Requirements

See [79 FR 62022, 16 Oct 2014] for final approval of the SO₂ iSIP

Section 110(a) of the CAA contains the general requirements for a SIP. Section 110(a)(2) provides that the implementation plan submitted by a state must have been adopted by the State after reasonable public notice and hearing, and that, among other things, it must include enforceable emission limitations and other control measures, means or techniques necessary to meet the requirements of the CAA; provide for establishment and operation of appropriate devices, methods, systems and procedures necessary to monitor ambient air quality; provide for implementation of a source permit program to regulate the modification and construction of any stationary sources within the areas covered by the plan; including provisions for the implementation of Part C, prevention of significant deterioration (PSD) of air quality, and Part D of the CAA, new source review (NSR) permit programs; include criteria for stationary source emission control measures, monitoring, and reporting; include provisions for air quality modeling; and provide for public and local agency participation in planning and emission control rule development.

Section 110(a)(2)(D) also requires State plans to prohibit emissions from within the State which contribute significantly to nonattainment or maintenance areas in any other State, or which interfere with programs under Part C of the CAA, to prevent significant deterioration of air quality or to protect visibility.

On June 25, 2013, West Virginia submitted an infrastructure SIP (iSIP) for the 2010 SO₂ NAAQS. EPA subsequently approved this SIP revision on October 16, 2014 [79 FR 62022], but did not take action on Section 110(a)(2)(D)(i)(II) for visibility protection.

On June 3, 2015, West Virginia submitted a SIP revision pertaining to the 45 CSR 14 – *Permits for Construction and Major Modification of Major Stationary Sources for the Prevention of Significant Deterioration of Air Quality (PSD)*, which the EPA approved effective September 12, 2016 [81 FR 53008, 11 Aug 2016]. In this action the EPA approved the SIP revision for the PSD program, and also approved several of West Virginia’s iSIP revisions as meeting the PSD elements of CAA Section 110(a)(2) for the 1997 Ozone and PM_{2.5} NAAQS, the 2006 PM_{2.5} NAAQS, the 2008 Lead and Ozone NAAQS, and the 2010 NO₂ and SO₂ NAAQS.

On September 16, 2015, West Virginia submitted a revision to the 2010 NAAQS SO₂ iSIP to address CAA Section (110)(a)(2)(D)(i)(II) for visibility protection by relying on implementation of the Cross State Air Pollution Rule (CSAPR) Federal Implementation Plan (FIP) to complete the Regional Haze SIP which helps ensure that West Virginia’s EGU emissions will not interfere with neighboring states’ reasonable progress towards visibility improvement in Class I areas.

2. Section 172(c) Requirements

Section 172(c) of the CAA contains general requirements for nonattainment plans. The requirements for reasonable further progress, identification of certain emissions increases, and other measures needed for attainment do not apply for redesignations because they only have meaning for areas not attaining the standard.

DEP submitted, as a SIP revision, the 2011 SO₂ inventory for the Marshall, WV nonattainment area as meeting the requirements of CAA Section 172(c)(3) on May 6, 2015. On June 5, 2015, the EPA determined that the SO₂ 2011 base year inventory for the Marshall, WV nonattainment area under the 2010 SO₂ NAAQS was administratively and technically complete. On July 31, 2015 EPA published a direct final rule approving the 2011 base year SO₂ emissions inventory for the Marshall area [80 FR 45613].

3. Conformity

The State must work with EPA to show that its SIP provisions are consistent with CAA Section 176(c)(4) conformity requirements. The redesignation request should include conformity procedures, if the state already has these procedures in place. If a state does not have conformity procedures in place at the time that it submits a redesignation request, the state must commit to follow EPA’s conformity regulation upon issuance, as applicable. EPA approved West Virginia’s

Transportation Conformity SIP detailing conformity procedures, effective July 1, 2008 [73 FR 24175]. Section IV discusses this requirement in more detail.

III. MAINTENANCE PLAN

CAA Section 107(d)(3)(E)(iv) stipulates that for an area to be redesignated, EPA must fully approve a maintenance plan that meets the requirements of Section 175(A). The maintenance plan will constitute a SIP revision and must provide for maintenance of the relevant NAAQS in the area for at least ten (10) years after redesignation. CAA Section 175(A) further states that the plan shall contain such additional measures, if any, as may be necessary to ensure such maintenance. EPA's April 2014 SO₂ Guidance states:

Where the state has submitted an attainment plan for SO₂, this plan in many cases can also serve as the basis for the maintenance demonstration for the area, insofar as attainment plans generally rely on maximum allowable emissions, these plans can generally be considered to demonstrate that the standard will be maintained without regard to any changes in operations rate of the pertinent sources.

In addition, the CAA requires the maintenance plan to contain such contingency measures as the Administrator deems necessary to assure prompt correction of any violation of the NAAQS which occur after the redesignation of the area as an attainment area. At a minimum, the contingency measures must include a requirement that the state will implement all measures contained in the nonattainment SIP prior to redesignation. EPA's April 2014 SO₂ SIP Guidance states:

In the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," published on April 16, 1992, at 57 FR 13498, the EPA provides further discussion of contingency measures for SO₂. This guidance suggests that in many cases, attainment revolves around compliance of a single source or a small set of sources with emission limits shown to provide for attainment. The guidance concludes that in such cases, "the EPA interprets 'contingency measures' to mean that the state agency has a comprehensive program to identify sources of violations of the SO₂ NAAQS and to undertake an aggressive follow-up for compliance and enforcement, including expedited procedures for establishing enforceable agreements pending the adoption of revised SIP's." See 57 FR 13547. Although this guidance applies to contingency measures for nonattainment plans under section 172(c)(9), the EPA envisions applying a similar policy with respect to the contingency measures required in maintenance plans under section 175A(d), to the extent consistent with section 175A(d)'s requirements that all NAA SIP or FIP requirements be implemented.

West Virginia DAQ selected the year 2030 as the end year of the maintenance plan. This document contains projected emissions inventories for 2023 and 2030. Since the three-year period 2009-2011 was the basis of the nonattainment designation, 2011 was selected as the nonattainment year. The pertinent inventory years are: 2011 (nonattainment year), 2016 (attainment year and maintenance plan base year), 2023 (interim year) and 2030 (maintenance plan end year). These specific emissions inventory demonstrations should be made:

1. The attainment year (2016) emissions of SO₂ must be less than the corresponding emissions in the nonattainment year (2011). The reductions must be attributable to federal enforceable emission reductions (as discussed in Section III. B and Section V).
2. The interim year (2023) emissions of SO₂ should be less than the maintenance plan base year (2016).
3. The end year (2030) emissions of SO₂ should be less than the maintenance plan base year (2016).

Based on information from West Virginia’s State & Local Emissions Inventory System (SLEIS) database software that is used to collect Title V point source emissions or EPA’s Air Market Program Data (AMPD) for EGUs, West Virginia has seen a significant state-wide decline of tons of SO₂ emitted between 2011 and 2016. A summary of significant contributors in the Marshall, WV area are provided in Table 4.

Table 4: Reductions in SO₂ Emissions Between 2011 and 2016				
Tons per Year (tpy)				
Location	Facility Name	2011 SO₂	2016 SO₂	% Change
Marshall County, WV	Kammer Power Plant	16,712	0 ¹	-100%
Marshall County, WV	Mitchell Power Plant	4,519	3,605 ²	-20%
Marshall County, WV	Rain CII Carbon	6,031	0 ³	-100%
Marshall County, WV	Eagle Natrium, LLC	6,760	2,554 ⁴	-62%
Belmont County, OH	R.E. Burger	0	0 ⁵	0%
West Virginia	--	95,693 ²	43,693 ²	-54%
National	--	2,774,107 ²	785,244 ²	-72%

¹Kammer Plant – permanently retired on June 1, 2015

²Data obtained from EPA’s AMPD

³Rain CII Carbon – official plant closure was October 9, 2015

⁴Eagle Natrium, LLC – switched fuel source from coal to natural gas (restarted Boiler #6 – November 12, 2015 and Boiler #5 – June 10, 2016)

⁵R.E. Burger – facility closed in 2010

Further, Table 5 clearly shows that total emissions from all sectors decreased in the period from 2011 to 2016 in the nonattainment areas. As outlined below, the reductions are enforceable and should continue in the future.

As indicated in Table 4, with the permanent retirement of the Kammer Plant; the closure of the Rain CII Carbon facility; the closure of the R.E. Burger Plant; as well as Eagle Natrium, LLC (formerly PPG) implementing a fuel switch from coal to natural gas, along with the continued implementation of regional transport rules (i.e. CAIR, CSAPR, CSAPR Update,) will be sufficient to ensure the maintenance level emissions are not exceeded in the Marshall, WV areas during the maintenance period.

A. SO₂ Emission Projections

Emission projections for the Marshall, WV areas were performed using the following approaches:

- Emissions inventories are required to be projected to future dates to assess the influence of future growth and controls.
- EGU
- Non-EGU
- Oil & Gas 2011 NEIv2 SO₂ data was reprocessed using NEIv2.1 of the Oil and Gas Tool to address an error in NEIv2 that did not accurately represent the gas composition of the Appalachian Basin and Appalachian Basin (Eastern Overthrust Area) gas found in West Virginia. The 2016 SO₂ values represent the sum of SO₂ generated by actual oil and gas production and exploration activities. Using future year production projections from AEO2017, growth factors for years 2023 and 2030 were calculated using the methodology developed by EPA and documented in their 2011-2023en Oil and Gas Projection Factors dated August 24, 2017.
- Area Sources emissions were projected for 2016, 2023 and 2030 based upon the 2011 NEIv2, and MARAMA projected 2017 and 2023 SO₂ emissions. The MARAMA's projections for 2017 SO₂ emissions for Marshall County (2017 MARAMA Beta Modeling Inventory in the EMF) is being used as the surrogate for 2016 SO₂ emissions for the county. This substitution is deemed reasonable

based upon the “no-growth” observation of fuel usage, population, employment between 2016 and 2017 as shown in MARAMA’s excel file “BETA Projection Non-Point 2016_02_20/Growth Raw Data”.

- Non-road mobile source inventories for those categories calculated by the model were developed by DAQ personnel using daily NONROAD Model runs for 2023 and 2030, and summing the monthly data to obtain annual data.
- On-road mobile source emission projections are based on EPA MOVES model run performed by DAQ staff. The analysis is described in more detail in Appendix B. All projections were made using federally approved interagency consultation procedures. As discussed in Section IV, DAQ determined that the mobile emission contribution as a percent of the total emission inventory from the area is insignificant.

The detailed inventory information for the Marshall, WV areas is contained in Appendix B. The Clay, Franklin, and Washington Tax Districts in Marshall County, WV were the only portion of the county designated nonattainment; however, the emission inventory data is for the entire county. Although the point source data includes the emissions for all point sources in the county, it should be noted that the only significant point source (i.e., Mitchell Power Plant) is located in the Franklin Tax District.

Emission trends are an important gauge for continued compliance with the SO₂ standard. Therefore, DAQ performed an initial comparison of the inventories for the base year and maintenance years. Sectors included in the following table (Table 5) are: electric generating units (EGU); non-electrical generating units including airports (Non-EGU); Oil and Gas (production and exploration activities); areas sources including industrial and commercial/institutional combustion of coal, distillate, residual oil, natural gas, kerosene, wood with boilers and engines, waste disposal, agricultural burning, human cremation, residential wood combustion with woodstoves and fireplaces, commercial marine vessels’ port and underway emission of diesel fuel, and railroad equipment diesel emissions; non-road and on-road mobile sources.

Table 5 notes that the 2023 (Interim) and 2030 (Maintenance) EGU SO₂ emissions for Marshall County, WV are projected to be 2,900 tpy. These projections are based on actual emissions over the previous five years and are not a permit limit or consent order limit.

Sector	2011 (Base)	2016 (Attainment)	2023 (Interim)	2030 (Maintenance)
EGU	21,231	3,605	2,900 ²	2,900 ²
Non-EGU	12,792	2,556	12	12
Oil & Gas	6.100 ¹	10.55	12.76	13.46
Area	51.19	49.66	45.58	45.05
Non-Road	0.02	0.01	0.01	0.01
On-Road	2.10	2.03	0.81	0.76
TOTAL	34,082.41	6,223.25	2,971.16	2,971.28

¹See Appendix B for detailed explanation of Oil and Gas value for 2011.

²Mitchell's projected actual emissions of SO₂/yr based on the last five years of actual emissions.

B. Air Quality Improvement is Based on Permanent and Enforceable Reductions

A demonstration that the improvement in air quality between the year violations occurred and the year attainment was achieved is based on permanent and enforceable emission reductions and not on temporary adverse economic conditions or unusually favorable meteorology.

EPA's redesignation guidance (Policy Memo from John Calcagni, Director, Air Quality Management Division to Regional Air Directors: *Procedures for Processing Requests to Redesignate Areas to Attainment*), dated September 4, 1992 states on page 9 regarding maintenance demonstration:

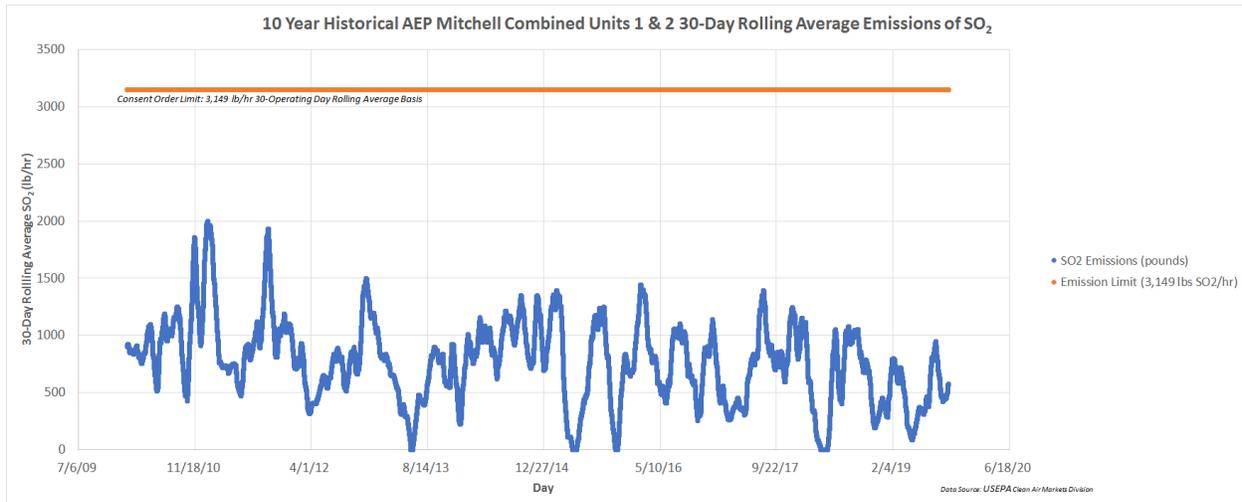
A State may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emission rates will not cause violation of the NAAQS. Under the Clean Air Act, many areas are required to submit modeled attainment demonstrations to show that proposed reductions in emissions will be sufficient to attain the applicable NAAQS. For these areas, the maintenance demonstration should be based upon the same level of modeling. In areas where no such modeling was required, the State should be able to rely on the attainment inventory approach. In both instances, the demonstration should be for a period of ten (10) years following the redesignation.

The reduction in emissions is attributed to the permanent retirement of the Kammer Plant (2015); the closure of the Rain CII Carbon facility (2015); the closure of the R.E. Burger Plant (2010); as well as Eagle Natrium, LLC implementing a fuel switch from burning coal to burning

natural gas (2016). Based on these closures, the only significant SO₂ emitting facility remaining in the Marshall, WV area, as of the fall of 2015, was the Mitchell Power Plant. As identified in Order No.: CO-SIP-C-2019-13, dated December 2, 2019, in accordance with Chapter 22, Article 5, Section 1 et seq. of the West Virginia Code, it is hereby agreed between the parties and ORDERED by the Director: Beginning January 1, 2019, and thereafter, the SO₂ emissions from Mitchell Units 1 and 2 shall be limited to a total maximum of 3,149 lb/hr on a 30-operating day rolling average basis.

In addition to Table 5, as additional weight of evidence, Figure 4 contains Mitchell's 30-day rolling average SO₂ actual emissions over the previous 10 years. As demonstrated, Mitchell's emissions have been below the 3,149 lb/hr on a 30-operating day rolling average basis limit in CO-SIP-C-2019-13 over the previous 10 years.

Figure 4. Mitchell 30-Day Rolling Average SO₂ Emissions Over Previous 10 Years



Furthermore, the AEP Consent Decree, Civil Action No. C2-99-1250 (Consolidated with C2-99-1182), as memorialized in Permit Number R30-0510005-2014, Specific Condition 4.1.23, requires the continuous operation of the FGD. This condition states:

4.1.23. Selective Catalytic Reactors and Flue Gas Desulfurization

- (1) On and after January 1, 2009, install and continuously operate Selective Catalytic Reactors (SCRs) on Mitchell Units 1 and 2.

- (2) On and after December 31, 2007, install and continuously operate Flue Gas Desulfurization (FGD) on Mitchell Units 1 and 2.
- (3) Pursuant to the Consent Decree, “continuously operate” means that when the SCR and/or FGD is used at a unit, except during a “malfunction,” the FGD and/or SCR shall be operated at all times the unit is in operation, consistent with the technological limitations, manufacturer’s specifications, and good engineering and maintenance practices for the control equipment and the unit so as to minimize emissions to the greatest extent practicable.
- (4) Pursuant to the Consent Decree, a “malfunction” means any sudden, infrequent, and not reasonably preventable failure of air pollution equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.
- (5) On and after December 31, 2012, install, calibrate, operate, and maintain PM CEMS on Mitchell Unit 2, and maintain in an electronic database the hourly average emission values in lb/mmBtu. The permittee shall use reasonable efforts to keep the PM CEMS running and producing data whenever Unit 2 is operating. Data from the PM CEMS shall be used, at a minimum, to monitor progress in reducing PM emissions, but stack testing according to reference methods approved by the Administrator shall be used to determine compliance with any PM emission rate applicable to Unit 2.

Appendix E contains the AEP Consent Decree and Permit R30-0510005-2014.

C. Emissions Tracking

Provisions for future annual updates of the inventory to enable tracking of the emission levels, include an annual emission statement from major sources.

In West Virginia, major point sources in all counties are required to submit air emissions information annually. DAQ prepares a new periodic inventory for all SO₂ precursor emission sectors every three (3) years in accordance with EPA’s Air Emissions Reporting Requirements (AERR). These SO₂ precursor inventories will be prepared for future years as necessary to comply with the inventory reporting requirements established in the CFR. Emission information will be compared to the 2011 base year and the 2030 projected maintenance year inventories to assess emission trends, as necessary, and to assure continued compliance with the annual SO₂ standard.

IV. TRANSPORTATION ANALYSIS

A. Emissions Model

For both, on-road and non-road sources, a MOVES run specification was written using model defaults as the inputs for the target years (2011, 2016, 2023, and 2030) and pollutant (SO₂). MOVES produced an annual SO₂ estimate in grams for each of the target years. MySQL was used to extract annual data from the MOVES output for Marshall County; totals were converted to tons. To establish confidence in the model, actual mobile SO₂ emission values were obtained from EPA's Emissions Inventory System (EIS) Gateway by requesting a mobile SO₂ emission report. These values represent local data previously submitted by West Virginia. Of the target years, 2011 is the most current year available from EPA. This SO₂ value was compared to the value estimated by the model using defaults. The difference was less than 0.3 tons per year, suggesting the defaults within the model produce accurate estimates. The MOVES run specification used to generate both the on-road and non-road emissions estimates can be found in Tables 6 and 7, respectively. The EIS report request parameters can be found in Appendix B.

Table 6: MOVES Inputs (On-Road)	
Run Spec Parameter Settings	
MOVES Version	MOVES2014a-20151201
Scale	Model: On-road Domain/Scale: National Calculation Type: Inventory
MOVES Modeling Technique	
Time Span	Time Aggregation Level: Hour Years: 2011, 2016, 2023, 2030 Months: All Days: All Hours: All
Geographic Bounds	Marshall County, West Virginia
Vehicles/Equipment	Fuels: All Source Use Types: All
Road Type	Selected Road Types: All
Pollutants and Processes	SO ₂ Total Energy Consumption
Strategies	None
General Output	Units: Grams, Joules, Miles Activity: Distance Traveled
Output Emissions	Always Time: Checked, Month Location: Checked, County Pollutant Checked On-Road/Non-Road On-Road and Non-Road: Checked Road Type: Checked Source Use Type: Checked SCC: Checked Regulatory Class: Unchecked Non-Road: Sector: Unchecked Engine Tech.: Unchecked HP Class: Unchecked For All Vehicle/Equipment Categories Model Year: Unchecked Fuel Type: Checked Emission Process: Checked Fuel Subtype: Unchecked Estimate Uncertainty: Unchecked Number of Iterations: 2 Keep Pseudo-Randomly Sampled Input: Unchecked Keep Output from Each Iteration: Unchecked
County Data Manager Sources	
Source Type Population	Default
Vehicle Type VMT	Default
I/M Program	Default
Fuel Formulation	Default
Fuel Supply	Default
Meteorology Data	Default
Ramp Fraction	Default
Road Type Distribution	Default
Age Distribution	Default
Average Speed Distribution	Default
Alternative Fuel Type	Default

Table 7: MOVES Inputs (Non-Road)

Run Spec Parameter Settings	
MOVES Version	MOVES2014a-20151201
Scale	Model: Non-road Domain/Scale: National Calculation Type: Inventory
MOVES Modeling Technique	
Time Span	Time Aggregation Level: Day Years: 2011, 2016, 2023, 2030 Months: All Days: All Hours: All
Geographic Bounds	Marshall County, West Virginia
Vehicles/Equipment	Non-Road Vehicle/Equipment Fuels: All Sectors: All Selections: All
Road Type	Selected Road Types: Non-road
Pollutants and Processes	SO ₂
Strategies	None
General Output	Units: Grams, Joules, Miles
Output Emissions	Always Time: Checked, 24-hour Day Location: Checked, County Pollutant Checked On-Road/Non-Road On-Road and Non-Road: Checked Road Type: Unchecked Source Use Type: Unchecked SCC: Checked Regulatory Class: Unchecked Non-Road: Sector: Checked Engine Tech.: Unchecked HP Class: Unchecked For All Vehicle/Equipment Categories Model Year: Unchecked Fuel Type: Checked Emission Process: Checked Fuel Subtype: Unchecked Estimate Uncertainty: Unchecked Number of Iterations: 2 Keep Pseudo-Randomly Sampled Input: Unchecked Keep Output from Each Iteration: Unchecked Advanced Performance Features: None
County Data Manager Sources	
Source Type Population	Default
Vehicle Type VMT	Default
I/M Program	Default
Fuel Formulation	Default
Fuel Supply	Default
Meteorology Data	Default
Ramp Fraction	Default
Road Type Distribution	Default
Age Distribution	Default
Average Speed Distribution	Default
Alternative Fuel Type	Default

B. On-Road and Non-Road Mobile Emissions Estimations

Mobile source emission projections, non-road and on-road, are based on EPA MOVES model. All projections were made using federally approved interagency consultation procedures. From the data provided in Table 8, DAQ determined that the mobile emission contributions as a percent of the total emission inventory from the area is insignificant, ranging from a high of 0.0062% (2011) to a low of 0.0017% (2030).

Sector	2011 (Base)	2016 (Attainment)	2023 (Interim)	2030 (Maintenance)
Non-Road	0.02	0.01	0.01	0.01
On-Road	2.10	2.03	0.81	0.76

V. CONTROL MEASURES AND REGULATIONS

A. Reasonably Available Control Measures (RACM) and Reasonably Available Control Technology (RACT)

Section 172(c)(1) of the CAA requires states with nonattainment areas to implement reasonably available control measures (RACM) and reasonably available control technology (RACT). States with nonattainment areas must submit a SIP providing for implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonable available control technology).

As identified in EPA's April 2014 guidance, *Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions*:

Air agencies use the SIP process to identify the emissions sources that contribute to problems in areas designated as nonattainment, and to select the emissions reduction measures that the air agency judges to be most appropriate to implement in order for the affected area to attain the 2010 SO₂ NAAQS based on a variety of local factors such as population exposure, enforceability, and economic impact. To be approved by the EPA, NAA SIPs need to ensure that areas designated as nonattainment reach attainment as expeditiously as practicable.

With the permanent closure of significant contributors in the Marshall, WV area, as of the end of 2015, the dispersion model for the only remaining contributor, Mitchell Power Plant, shows the area to be in attainment. With the area being in attainment well in advance of the attainment date of October 4, 2018, there is no need for additional measures to advance the attainment date. Therefore, no further RACM/RACT requirements apply.

B. Inventory of Actual Emissions

CAA Section 172(c)(3) requires State plans to include “a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in such area, including such periodic revisions as the Administrator may determine necessary to assure that the requirements of this part are met.”

As identified in Order No.: CO-SIP-C-2019-13), dated December 2, 2019, in accordance with Chapter 22, Article 5, Section 1 et seq. of the West Virginia Code, it is hereby agreed between the parties and ORDERED by the Director: Beginning January 1, 2019, and thereafter, the SO₂ emissions from Mitchell Units 1 and 2 shall be limited to a total maximum of 3,149 lb/hr on a 30-operating day rolling average basis. To demonstrate compliance with the SO₂ emission limitations of the Consent Order, Kentucky Power shall use the continuous emissions monitoring system (CEMS) installed, certified, operated, and maintained in accordance with Part 75. Kentucky Power is required to submit semiannual compliance reports to DAQ concerning emissions from Mitchell Units 1 and 2. The reporting periods are from January 1st to June 30th and July 1st to December 31st of a given year.

West Virginia will continue to provide updates to future inventories in accordance with EPA’s AERR rule. As discussed in Section III. C., West Virginia DAQ submits, and commits to submit, emission inventories every three (3) years.

C. Assurance that Existing Control Measures Will Remain in Effect

West Virginia commits to maintaining the aforementioned control measures after redesignation. West Virginia hereby commits that any changes to its rules or emission limits applicable to SO₂, as required for maintenance of the 1-hour SO₂ standard in the Marshall, WV area, will be submitted to EPA for approval as a SIP revision.

West Virginia, through the DEP, DAQ, has the legal authority and necessary resources to actively enforce any violations of its rules or permit provisions. After redesignation, it intends to continue enforcing all rules that relate to the emission of SO₂ precursors in the Marshall, WV area.

VI. CONTINGENCY MEASURES

A. Maintenance Plan Review

West Virginia hereby commits to review its maintenance plan eight (8) years after redesignation, as required by Section 175(A) of the CAA.

B. Corrective Actions

West Virginia hereby commits to adopt and expeditiously implement necessary corrective actions in the following circumstances:

1. Warning Level Response

A warning level response shall be prompted whenever the 99th percentile of the 1-hour daily SO₂ maximum concentration of 75.5 ppb occurs in a single calendar year within the maintenance areas. A warning level response will consist of a study to determine whether SO₂ values indicate a trend toward higher SO₂ values or whether emissions appear to be increasing. The study will evaluate whether the trend, if any, is likely to continue and, if so, the control measures necessary to reverse the trend taking into consideration ease and timing for implementation as well as economic and social considerations. Implementation of necessary controls in response to a warning level response trigger will take place as expeditiously as possible, but in no event later than 12 months from the conclusion of the most recent calendar year.

Should it be determined through the warning level study that action is necessary to reverse the noted trend, the procedures for control selection and implementation outlined under 'Action Level Response' shall be followed.

2. Action Level Response

An action level response shall be prompted whenever a 2-year average of the 99th percentile 1-hour SO₂ concentration of 75 ppb or greater occurs within the maintenance area. A

violation of the standard (3-year average of the 99th percentile of 75 ppb or greater) shall also prompt an action level response. In the event that the action level is triggered and is not found to be due to an exceptional event, malfunction, or noncompliance with a permit condition or rule requirement, DAQ in conjunction with the metropolitan planning organization (MPO) or regional council of governments, will determine additional control measures needed to assure future attainment of the 2010 1-hour SO₂ NAAQS. In this case, measures that can be implemented in a short time will be selected in order to be in place within 18 months from the close of the calendar year that prompted the action level. DAQ will also consider the timing of an action level trigger and determine if additional, significant new regulations not currently included as part of the maintenance provisions will be implemented in a timely manner and will constitute our response.

3. Control Measure Selection and Implementation

Adoption of any additional control measures is subject to the necessary administrative and legal process. This process will include publication of notices, an opportunity for public hearing, and other measures required by West Virginia for rulemaking.

If a new measure/control is already promulgated and scheduled to be implemented at the federal or State level, and that measure/control is determined to be sufficient to address the upward trend in air quality, additional local measures may be unnecessary. Furthermore, DAQ will submit to EPA an analysis to demonstrate the proposed measures are adequate to return the area to attainment.

C. Potential Contingency Measures

The EPA in their April 23, 2014, Guidance for the 1-Hour SO₂ Nonattainment Area SIP Submissions, in Section VIII.E.5. states:

In the “General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990,” published on April 16, 1992, at 57 FR 13498, the EPA provides further discussion of contingency measures for SO₂. This guidance suggests that in many cases, attainment revolves around compliance of a single source or a small set of sources with emission limits shown to provide for attainment. The guidance concludes that in such cases, “the EPA interprets ‘contingency measures’ to mean that the state agency has a comprehensive program to identify sources of violations of the SO₂ NAAQS and to undertake an aggressive follow-up for compliance and enforcement, including expedited procedures for establishing enforceable agreements pending the adoption of revised SIP’s.” See

57 FR 13547. Although this guidance applies to contingency measures for nonattainment plans under section 172(c)(9), the EPA envisions applying a similar policy with respect to the contingency measures required in maintenance plans under section 175A(d), to the extent consistent with section 175A(d)'s requirements that all NAA SIP or FIP requirements be implemented.

The Marshall, WV area is an area where “attainment revolves around compliance of a single source or a small set of sources with emission limits shown to provide for attainment,” specifically Mitchell Power Plant. The DEP has a comprehensive program to identify sources of violations of the SO₂ NAAQS as outlined above, and as EPA approved compliance and enforcement program to undertake aggressive follow-up for any violations.

D. SO₂ Source Potentially Subject to Future Additional Control Requirements

The only facility with significant SO₂ emissions in the Marshall, WV area, as of the fall of 2015, is the Mitchell Power Plant. This is the only facility subject to future controls.

VII. PUBLIC PARTICIPATION

Notice of this proposed redesignation petition, a Class 1 Legal Advertisement, was placed in the Wheeling News Register, Wheeling Intelligencer and Moundsville Daily Echo on February 7, 2020 and published in the State Register on February 7, 2020.

A Public Hearing was held at 6:00 PM on March 9, 2020, at the West Virginia DEP Northern Panhandle Regional Office located at 131A Peninsula Street, Wheeling, West Virginia.

Public participation documentation can be found in Appendix F.

VIII. CONCLUSION

The Marshall, WV SO₂ nonattainment area has attained the 2010 1-hour SO₂ NAAQS and West Virginia has complied with the applicable provisions in the CAA regarding redesignation of SO₂ nonattainment area. Documentation to that effect is contained herein. West Virginia DAQ has prepared a redesignation request and maintenance plan that meet the requirements of Section 110(a)(1) of the CAA.

Based on the information provided in this document, the Marshall, WV SO₂ nonattainment area meets the requirements for redesignation under the CAA and EPA guidance. West Virginia has provided documentation showing that air quality improvements are due to permanent and enforceable measures.

The State of West Virginia hereby requests that the Marshall, WV 2010 1-hour SO₂ nonattainment areas be redesignated to attainment simultaneously with EPA's approval of CAA Section 175A maintenance plan provisions contained herein.