west virginia department of environmental protection

Attainment Demonstration for the 1-hour National Ambient Air Quality Standard for Sulfur Dioxide (SO_2) State Implementation Plan Revision for the Marshall, West Virginia Nonattainment Area, Comprised of the Clay, Franklin, and Washington Tax Districts of Marshall County

PROPOSED
December 2016

West Virginia Division of Air Quality
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Charleston, WV 25304

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Table of Contents

Table of Contents (cont'd)

List of Appendices

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Acronyms and Abbreviations

AEO	Annual Energy Outlook
AEP	American Electric Power
AQS	Air Quality System
Bhp	Brake Horsepower
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CAMD	Clean Air Market Division
CEM	Continuous Emissions Monitoring
CFR	Code of Federal Regulations
CISWI	Commercial and Industrial Solid Waste Incinerators
CMV	Commercial Marine Vessel
CO	Carbon Monoxide
CSAPR	Cross State Air Pollution Rule
CSR	Code of State Rules
EGU	Electric(ity) Generating Unit
EIAG	Emissions Inventory and Analysis Group
EPA	Environmental Protection Agency
FGD	Flue Gas Desulfurization
FR	Federal Register
GACT	Generally Available Control Technology
H_2S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant
HCl	Hydrogen Chloride
HF	Hydrogen Fluoride
km	Kilometers
lb	Pound
lb/hr	Pounds per Hour
lb/MMBtu	Pounds per Million British Thermal Units
LULC	Land Use and Land Cover
M	Meters
MACT	Maximum Available Control Technology
MATS	Mercury and Air Toxic Standard
MMBtu/hr	Million British Thermal Units per Hour
MW	Megawatts
N/A	Not Applicable or Not Available
NAAQS	National Ambient Air Quality Standard
NED	National Elevation Dataset
NEI	National Emissions Inventory
NESHAP	National Emission Standards for Hazardous Air Pollutant
NO_x	Nitrogen Oxides
NODA	Notice of Data Availability
NSPS	New Source Performance Standard
NSR	New Source Review
NWS	National Weather Service

OAQPS	Office of Air Quality Planning and Standards
OH	Ohio
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter Less Than 2.5 Microns in Diameter
ppb	Parts per Billion
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance/Quality Control
RACM	Reasonably Available Control Measure
RACT	Reasonably Available Control Technology
RFP	Reasonable Further Progress
SCC	Source Classification Code
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
SLAMS	State or Local Air Monitoring Station
SO_2	Sulfur Dioxide
SO_3	Sulfur Trioxide
SO_X	Sulfur Oxides
SSI	Sewage Sludge Incinerators
tcf	Tons per Cubic Feet
tpy	Tons per Year
$\mu g/m^3$	Micrograms per Cubic Meter
USC	United States Code
USEPA	United States Environmental Protection Agency
WV	West Virginia
WVDAQ	West Virginia Division of Air Quality
WVDEP	West Virginia Department of Environmental Protection
WVDMV	West Virginia Department of Motor Vehicles
WVDOT	West Virginia Department of Transportation

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1.0. INTRODUCTION

The Marshall, West Virginia (WV) 1-hour sulfur dioxide (SO_2) nonattainment area is comprised of the Clay, Franklin, and Washington Tax Districts of Marshall County, WV. The area was designated as nonattainment with the 2010 1-hour SO_2 National Ambient Air Quality Standard (NAAQS) in the August 5, 2013 Federal Register [78 FR 47191], effective October 4, 2013.

1.1. Definition of Sulfur Dioxide

Sulfur dioxide (SO_2) is one of a group of highly reactive gasses known as "oxides of sulfur." The largest sources of SO_2 emissions are from fossil fuel combustion at power plants and other industrial facilities. Smaller sources of SO_2 emissions include industrial processes, such as: extracting metal from ore, and the burning of high sulfur containing fuels by locomotives, large ships, and non-road equipment. SO_2 is linked to a number of adverse effects on the respiratory system.

1.2. Health and Environmental Effects

Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including: bronchoconstriction and increased asthma symptoms. These effects are particularly important for asthmatics at elevated ventilation rates (e.g., while exercising or playing).

Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics.

The United States Environmental Protection Agency's (USEPA) NAAQS for SO_2 is designed to protect against exposure to the entire group of sulfur oxides (SO_x). SO_2 is the component of greatest concern and is used as the indicator for the larger group of gaseous SO_x. Other gaseous SO_x (e.g. sulfur trioxide (SO_3)) are found in the atmosphere at concentrations much lower than SO_2.

Emissions that lead to high concentrations of SO_2 generally also lead to the formation of other SO_x. Control measures that reduce SO_2 can generally be expected to reduce people's exposures to all gaseous SO_x. This may have the important co-benefit of reducing the formation of fine sulfate particles, which pose significant public health threats. These particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death. The USEPA's NAAQS for particulate matter (PM) are designed to provide protection against these health effects.

1.3. The SO_2 NAAQS

The Clean Air Act (CAA) requires the USEPA to set NAAQS for six criteria pollutants, including SO_2. The CAA established two types of national air quality standards for SO_2. Primary standards are set to protect public health, including the health of "sensitive" populations, such as asthmatics, children and the elderly. Secondary standards are set to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation and buildings.

The nation's air quality standards for SO_2 were first established in 1971 [36 FR 8186]. The USEPA set a 24-hour primary standard at 140 parts per billion (ppb) and a primary annual average standard at 30 ppb (to protect health). The USEPA also set a 3-hour average secondary standard at 500 ppb and an annual average standard of 20 ppb (to protect the public welfare). In 1973 the USEPA reviewed the SO_2 NAAQS and retained the secondary 3-hour standard, without revision, and revoked the secondary annual standard [38 FR 25678]. In 1996, the USEPA reviewed the SO_2 NAAQS and chose not to revise the standards [61 FR 25566]. In 2010, the USEPA revised the primary SO_2 NAAQS by establishing a new 1-hour standard at a level of 75 ppb [75 FR 35520]. The USEPA revoked the two existing primary standards (24-hour and annual standards) because they would not provide additional public health protection given a 1-hour standard at 75 ppb.

2.0. AIR MONITORING DATA

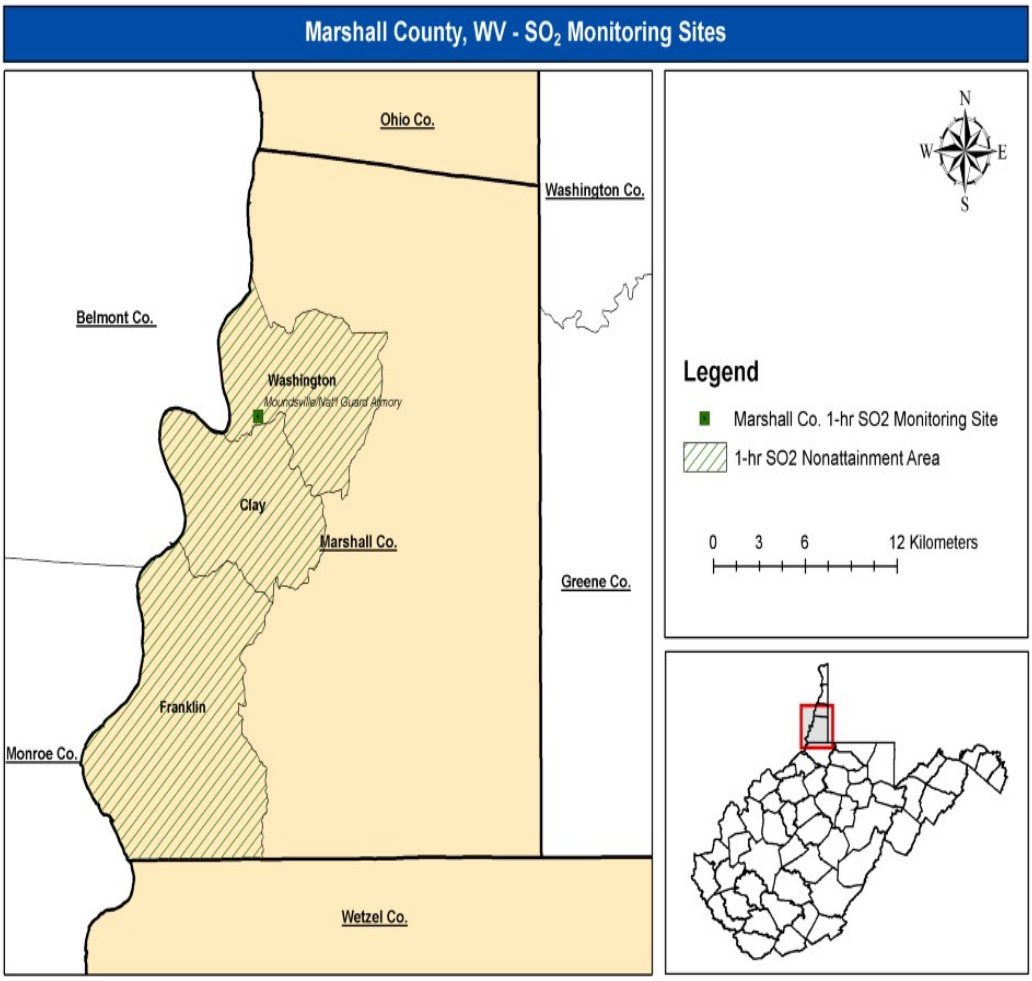
The Ambient Air Monitoring network in the Marshall, WV 1-hour SO_2 nonattainment area consists of a single monitoring location in Marshall County, WV having SO_2 monitoring instrumentation. The site is located at Moundsville National Guard Armory, Moundsville, Marshall County, WV. This site has been monitoring SO_2 since January 1, 1983. The data from this location has been certified and uploaded to USEPA's Air Quality System (AQS) website, through December 31, 2015.

Air quality measurements used in this analysis were performed in accordance with appropriate regulations and guidance documents including adherence to USEPA quality assurance requirements. Monitoring procedures are in accordance with 40 CFR Parts 53 and 58.

2.1. Monitoring Sites

Air monitoring data is an important factor in designating nonattainment areas. Figure 2.2. shows the locations of the 1-hr SO_2 SLAMS network monitor located in the Marshall, WV nonattainment area. The SLAMS monitor is located within the City of Moundsville, Marshall County, WV.

Figure 2.1. Map of the Marshall, WV Area SO_2 Monitoring Site Location



2.2. SO_2 Monitoring Network Design Values

The 1-hour SO_2 standard is met at an ambient air monitoring site when the three-year average of the annual 99th percentile of 1-hour daily maximum concentrations is less than or equal to 75 ppb. The three-year average of the annual 99th percentile of 1-hour daily maximum concentrations is also referred to as the "design value" for the site. For the data to be deemed complete, a minimum of 75 percent of the days in each quarter of each of the three consecutive years must have at least one reported hourly value. Hourly SO_2 data are reported to the AQS.

Table 2.1. shows the 1-hr SO_2 design values for the State or Local Air Monitoring Station (SLAMS) network monitoring site. Figures 2.2.a and 2.2.b. illustrate the annual 1-hour maximum SO_2 concentrations and three year SO_2 design values for the Moundsville monitor.

Table 2.2. 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**
Moundsville National Guard Armory	Washington	54-051-1002	112	92	80	78	59	47	41

Appendix A contains the Air Monitoring Data from AQS.

Figure 2.2.a. Moundsville SO_2

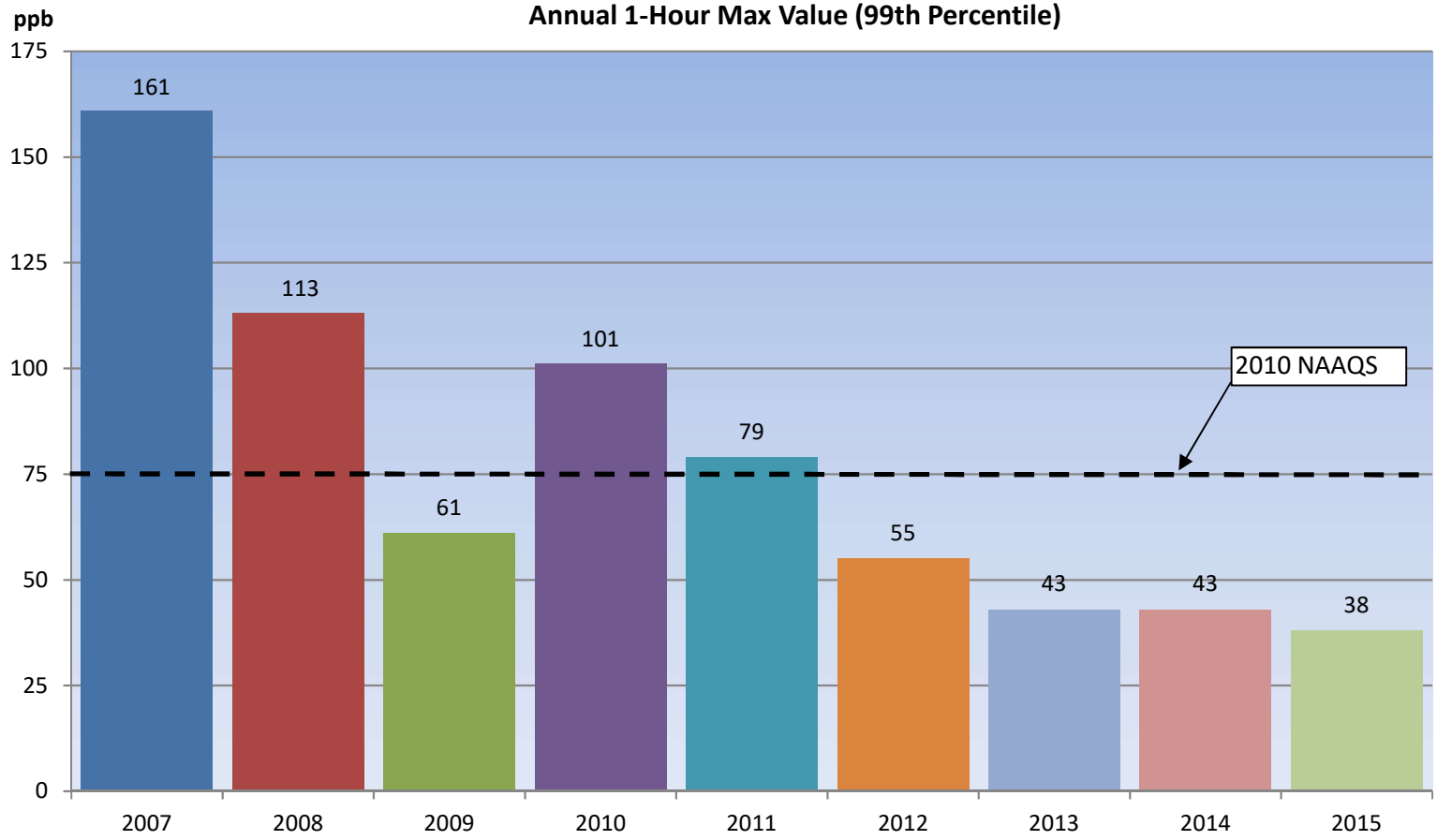
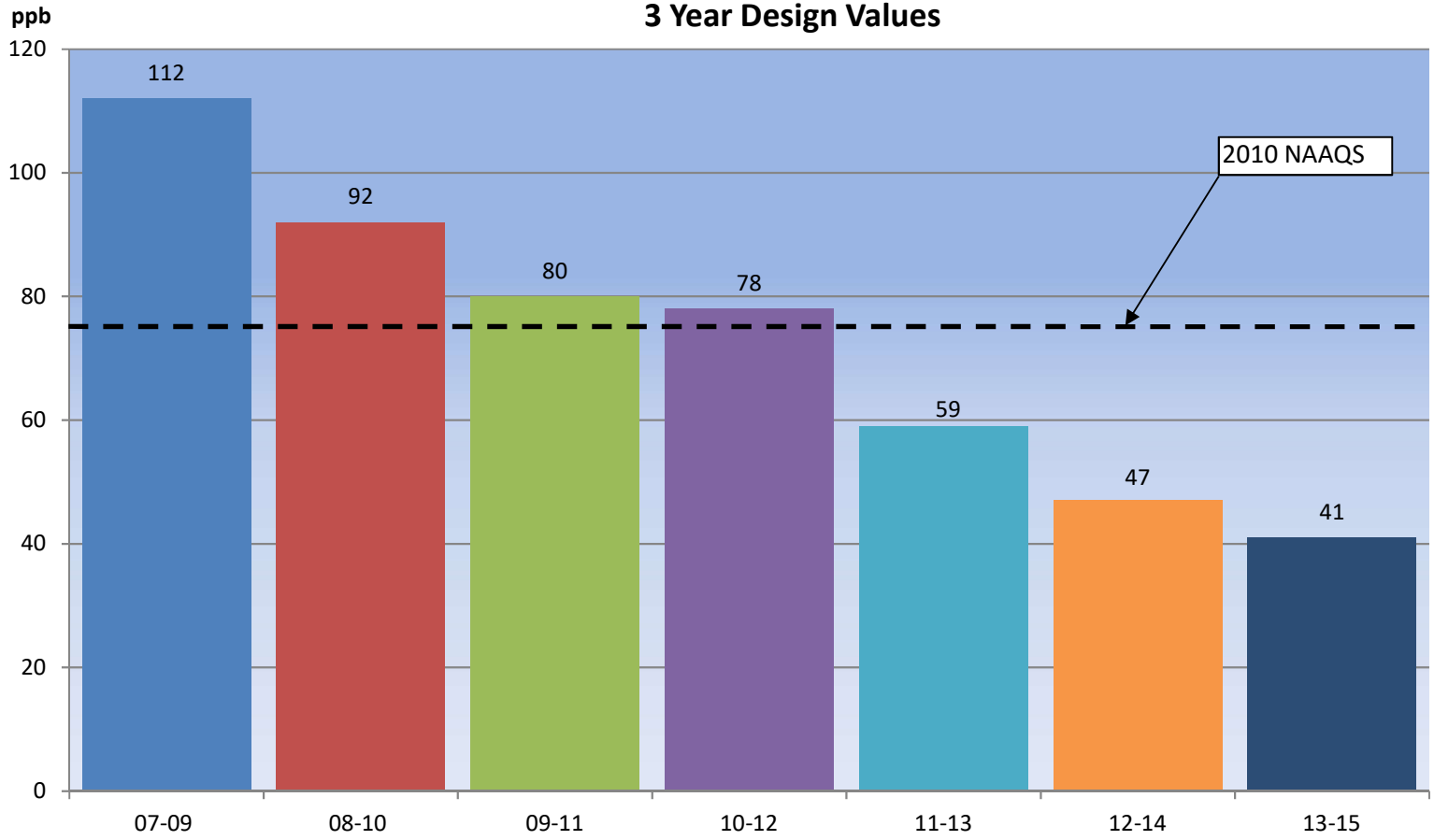


Figure 2.2.b. Moundsville SO_2



2.3. Emission Sources

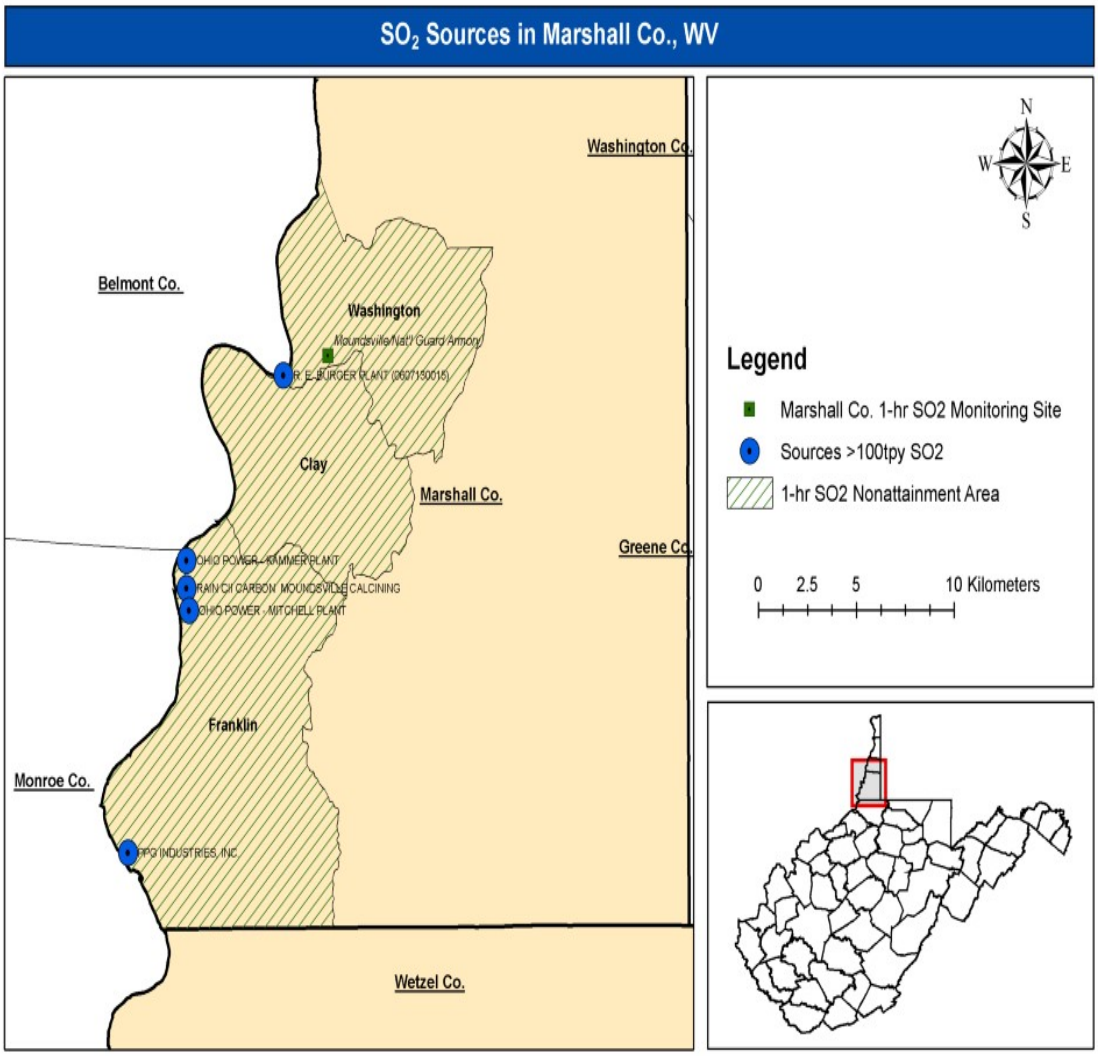
Significant emissions in an area indicate the potential for the area to contribute to observed violations of the NAAQS. Figure 2.3. shows the significant sources of SO_2 in Marshall County, WV. Table 2.3. shows SO_2 emissions levels and related information for these sources. Emissions have decreased significantly in Marshall County, WV and these decreases correlate with the reduction in observed SO_2 design values measured at the Moundsville, WV monitor.

Table 2.3. Significant SO_2 Facility Emissions 2008 - 2015 (tpy)

County	Facility Name	2008 SO_2	2009 SO_2	2010 SO_2	2011 SO_2	2012 SO_2	2013 SO_2	2014 SO_2	2015 SO_2	EGU SO_2 Controls
Marshall, WV	Kammer Power Plant	32,050	16,756	14,127	16,712	19,717	10,580	14,781	4,680	None[1]
Marshall, WV	Mitchell Power Plant	3,024	3,178	4,460	4,519	3,455	2,482	4,458	2,915	FGD
Marshall, WV	Rain CII Carbon	7,630	2,703	1,622	6,031	5,461	4,597	0	0	N/A[2]
Marshall, WV	Eagle Natrium, LLC	7,693	5,857	6,754	6,760	6,275	7,156	7,433	7,671	N/A
Belmont, OH	R.E. Burger	15,126	5,988	12,719	0					None[3]
TOTAL		**65,523**	**34,482**	**39,682**	**34,022**	**34,908**	**24,815**	**26,672**	**15,266**	

[1]American Electric Power (AEP) Consent Decree to close facility
[2]Rain CII Carbon closed facility in early 2014
[3]R. E. Burger closed facility in 2010

Figure 2.3. Map of the Marshall, WV Area Significant SO_2 Emission Sources



3.0. CLEAN AIR ACT REQUIREMENTS

Section 172 of the CAA addresses the general requirements for areas designated as nonattainment for any NAAQS pollutant.

Section 172(c) Nonattainment Plan Provisions

As per "Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions" (April 2014):

(1) Accurate emissions inventory of current emissions
(2) New source review (NSR) permit program
(3) Attainment Demonstration using a USEPA approved air quality dispersion model
(4) Reasonable Further Progress (RFP)
(5) Implementation of Reasonably Available Control Measures (RACM) including Reasonably Available Control Technology (RACT)
(6) Contingency measures

3.1. Emission Inventories

Section 172(c)(3) of the CAA requires that nonattainment plan provisions include a comprehensive, accurate base-year inventory of actual emissions from all sources of SO_2 in the nonattainment area. The attainment inventory is the model inventory included within the State Implementation Plan (SIP) Revision Demonstration package. The attainment (2017) inventory is based upon allowable emissions, which are enforceable via federally enforceable permits, regulations, and/or consent orders. The Federally approved base year (2011) inventory along with Federal Register (FR) citation, and the 2014 actual and 2017 projected inventories are attached in Appendix B.

Data from 2011 is representative of the operations of the facilities that caused or contributed to the monitored violations leading to the area being designated as nonattainment with the 2010 1-hour SO_2 NAAQS.

The 2011 emissions inventory data was extracted from the USEPA's National Emissions Inventory (NEI) version 2. Emission data for 2104 was extracted from the NEI version 1. With the exception of point source emissions, category emission totals were largely estimated by the USEPA and their contractors. The West Virginia Division of Air Quality (WVDAQ) has accepted these emission estimates for the 2011 inventory. The 2014 emission data has not been finalized by the WVDAQ. Point source emissions and certain area source categories' factors were prepared by the WVDAQ staff. Emission projections for 2017 are based on EPA projections, known shutdowns and fuel conversions, and conservative assumptions regarding operations.

Table 3.1. contains emissions inventory summaries for Marshall County, WV for 2011 (actual), 2014 (actual) and 2017 (projected) SO_2 emissions. Note that the emissions are for the entire county, rather than just from the nonattainment area. Documentation is attached in Appendix B.

Table 3.1. Summary of Marshall County, WV SO_2 Emission Inventories by Category				
Category	**2011 Actual SO_2 Emissions (tons)**	**2014 Actual SO_2 Emissions (tons)**	**2017 Projected SO_2 Emissions (tons)**	**Notes**
Event	4	4	4	Prescribed Forest Burning (Assumed constant)
Nonpoint	129	16	19	Oil and Gas well emissions were included for first time in 2011, which accounted for 78 tons, also included were 34 tons from area source industrial coal-fired boilers (these 2 categories accounted for 87% of Nonpoint SO_2 emissions). In 2014 WV specific H_2S data was used for Oil and Gas well emissions, rather than USEPA default data; WVDEP identified that there are no industrial coal-fired boilers, these corrections resulted in an 86% decrease. In 2017, the increase is due to a projected increase in gas production.
Nonroad	0	0	0	Includes railway maintenance.
Onroad	2	0	0	
Point EGU	21,231	19,239	6,175	
Point NonEGU	12,791	7,435	34	Includes airport emissions.
Total	***34,157***	***26,695***	***6,232***	An 81.2% decrease in emissions from 2011 to 2017.

3.1.a. Fires

The fires inventory is developed by the USEPA and the emission estimates were accepted by the WVDAQ for 2011. Emissions for 2017 are based on the USEPA projections included in the Notice of Data Availability (NODA) for the 2008 Ozone NAAQS released in August 2015.

3.1.b. Nonpoint (Area)

Area source emissions inventories address human activities that are too small to estimate individually, but that can be significant collectively. Example activities include residential wood burning in fireplaces, agricultural pesticide application, auto body repair shops, etc. These source emissions are estimated at the county level. A significant new sector, the Oil and Gas Exploration and Production sector, was included for the first time in the 2011 NEI to the Nonpoint category. Due to this sector's rapid growth and expected significant impacts, USEPA was required to prepare oil and gas inventories in a relatively short time. A western regional air organization had already developed software to estimate emissions from this sector, which the USEPA adapted as their tool to prepare a national inventory. USEPA then invited states to either accept their estimates or to collaborate with them to improve the estimates. Many of the assumptions and factors used in this tool where based on a CenSARA study, which did not represent the shale plays in West Virginia. For 2014, the WVDAQ provided the USEPA updated information for the Oil and Gas Tool based on analytical data and performance specification specific to West Virginia shale plays. These updates resulted in a decrease in SO_2 emissions from Oil and Gas production and exploration operations in 2014.

With collaboration and support provided from the Office of Air Quality Planning and Standards (OAQPS) and the Emissions Inventory and Analysis Group (EIAG) staff, the WVDAQ used USEPA's Oil and Gas Tool to estimate SO_2 emissions for both the 2011 and 2014 inventories. For the 2011 reporting year, 129 tons of SO_2 emissions were associated with this source category in Marshall County. Of this total, approximately 77 tons were associated with one SCC (2310121700 - On-Shore Gas Exploration /Gas Well Completion: All Processes). The other significant SO_2 emissions came from SCC 2102002000 - Area Source Industrial Bituminous/Sub-Bituminous Total: All Boiler Types, which represented approximately 34 tons.

For 2014, Marshall County total area source SO_2 emissions were reduced to approximately 16 tons. This reduction was the result of using the USEPA's Oil and Gas Tool with the WVDAQ updates. The Oil and Gas Tool's estimated SO_2 emissions for SCC 2310121700 were reduced to approximately 6 tons. SO_2 emissions from SCC 2102002000 were reduced to zero tons since West Virginia does not have any operational area source industrial coal-fired boilers.

Emission projections for 2017 area sources are largely the same as the USEPA's 2017 projections provided in the August 2015 NODA for the 2008 Ozone NAAQS; with the exception for the Oil and Gas related SCCs and SCC 2102002000. For the Oil and Gas SCCs, the WVDAQ projected 2014 NEI version 1 emission data to 2017 using annual natural gas production data provided in the USEPA's 2015 Annual Energy Outlook (AEO2015) for Eastern States. The

AEO2015 natural gas production rate for 2014 was approximately 5.78 tcf and approximately 7.33 tcf in 2017. Using the ratio of these production rates equates to an emission factor of 1.27. Therefore, 2014 emissions for these SCCs were scaled-up by this factor to project 2017 emissions.

For SCC 2102002000, 2017 projected emissions are zero. This is the same reason as the 2014 emission rate since there are no coal-fired industrial boilers currently operating in Marshall County.

3.1.c. Nonroad

Nonroad sources are mobile sources that operate off-road. Examples include construction equipment such as bulldozers and cranes, tractors, aircraft, marine vessels, locomotives, etc. Except for the air, rail and commercial marine vessel (CMV) sectors, USEPA uses their Nonroad Model to prepare emissions estimates for this category. Total SO_2 emissions calculated by the Nonroad Model were less than a ton in 2011. Aircraft emissions were flagged in the 2011 NEI as point sources and totaled about 260 pounds. Emissions from the rail and marine vessel categories were flagged by USEPA as being area sources and totaled about 3 tons, most of which came from SCC 2280002200 (CMVs, Diesel: Underway emissions). The rail and CMV totals were included in the Nonpoint total above. All the nonroad emissions estimates were prepared by the USEPA. Estimates for 2011 were accepted by the WVDAQ. Nonroad emissions for 2014 were taken from the USEPA's 2014 version 1 data.

Projected Nonroad 2017 emissions are the same as those provided in the USEPA's August 2015 NODA for the 2008 NAAQS.

3.1.d. Onroad

Onroad sources include all vehicles that are designed to operate on roadways. They include automobiles, trucks, busses, and motorcycles. In 2011, the USEPA prepared these SO_2 emission estimates using their MOVES2010b model with West Virginia Department of Motor Vehicle (WVDMV) registration data and West Virginia Department of Transportation (WVDOT) vehicle miles traveled data provided by the WVDAQ. The WVDAQ accepted USEPA's 2011 SO_2 estimates.

In 2014, SO_2 emissions were again estimated by the USEPA using their most recent emissions model MOVES2014a. The WVDAQ once again provided West Virginia related registration and vehicle miles traveled data used in estimating the 2014 SO_2 emissions. Emissions provided for 2014 are from the USEPA's 2014 version 1 data.

Emission projections for 2017 were taken from the USEPA's August 2015 NODA for the 2008 NAAQS data.

3.1.e. Point EGU and nonEGU

The Point category represents air pollution sources large enough to estimate emissions on a facility-by-facility basis. Electricity Generating Units (EGUs) are typically the largest emission sources and are frequently broken out from the remainder of nonEGU point sources. The largest sources of SO_2 emissions in Marshall County were two EGUs. Both the EGU and nonEGU point source SO_2 emissions for reporting years 2011 and 2014 were collected by the WVDAQ, quality assured, and reported to the USEPA via the EIS Gateway. From 2011 to 2014, SO_2 emissions have been reduced in this category by approximately 7,348 tons. This reduction is due to shutdowns and a facility converting from coal-fired to natural-fired boilers.

Emission projections for 2017 are based on these known shutdowns and fuel conversions. Major facility SO_2 emissions for 2017 are based on maximum allowable permit limitations. To be conservative, facilities in Marshall County with SO_2 emissions typically less than one ton were projected to 2017 using the largest of either the 2011 or 2014 emissions.

Where available, SO_2 emission inventory files were downloaded from the USEPA's EIS Gateway at https://eis.epa.gov/eis-systemweb/welcome.html. The detailed emissions are provided in Appendix B.

3.2. New Source Review (NSR) Permit Program

CAA Section 172(c)(5) requires a permit program consistent with the requirements of Section 173. On June 13, 1984, West Virginia requested that the USEPA approve rule 45CSR14 "Permits for the Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration" (PSD) as a revision to the SIP. The USEPA approved PSD SIP revisions in 1986 [51 FR 12517], 1993 [58 FR 34526], 1996 [61 FR 54734], 2012 [77 FR 63736] and 2015 [80 FR 36483]. West Virginia's 2015 fully-adopted rule 45CSR14 was submitted to the USEPA as a revision to the SIP on June 3, 2015, thereby enabling the USEPA to fully approve recent amendments to the PSD program into the SIP.

West Virginia has also implemented as part of its SIP since 1972, 45CSR13 "Permits for Construction, Modification, or Relocation of Stationary Sources of Air Pollutants, and Procedures for Registration and Evaluation" requiring construction/modification permits for all regulated emission sources. The USEPA approved the most recent revisions to 45CSR13 as a SIP revision effective August 20, 2014 [79 FR 42212].

On April 29, 1983, West Virginia requested that the USEPA approve rule 45CSR19 "Requirements for Pre-Construction Review, Determination of Emission Offsets for Proposed New or Modified Stationary Sources of Air Pollutants and Bubble Concept for Intrasource Pollutants" for permitting of major sources and modifications in designated nonattainment areas pursuant to CAA requirements. The USEPA approved this rule as part of the SIP effective August 1, 1985 [50 FR 27247], and approved the most recent revisions to the rule on June 25, 2015 [80 FR 29972]. Therefore, West Virginia has a nonattainment NSR program which has been approved by USEPA.

Presently any major sources wishing to construct or make a major modification within the WV portion of the nonattainment area are required to obtain a NSR Permit through 45CSR19. Subsequent to redesignation of the area to attainment, any source wishing to construct or modify will be required to obtain a PSD Permit through 45CSR14. An engineering evaluation and analysis of information pertaining to the source will be performed prior to issuance of any permit. The PSD program would require that a modeling demonstration be performed to ensure ongoing NAAQS compliance. These, along with requirements of the minor source permit program covered under 45CSR13, assure the maintenance of the NAAQS.

3.3. Attainment Demonstration

An attainment demonstration consists of: (a) analyses that estimate whether selected emissions reductions will result in ambient concentrations that meet the NAAQS, and (b) an identified set of control measures which will result in the required emissions reductions. The necessary emission reductions for both of these attainment demonstration components may be determined by relying on results obtained with air quality models.

As part of this SIP revision, a modeling-based demonstration using the USEPA approved air quality dispersion model AERMOD was performed showing attainment of the primary 1-hour SO_2 NAAQS. Modeling results submitted indicate future NAAQS maintenance of the area. No modifications to existing facilities or new installations have been made that detrimentally affect the modeling results. The State of West Virginia is confident that the current air quality regulations are sufficient to ensure and maintain the NAAQS for 1-hour SO_2 in the area. The Model Run is attached in Appendix C.

3.4. Reasonable Further Progress (RFP)

As the USEPA noted on page 40 of their April 23, 2014, Memorandum "Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions" from Stephen D. Page:

> Section 171(1) of the CAA defines RFP as "such annual incremental reductions in emissions of the relevant air pollutant as are required by this part (part D) or may reasonably be required by the EPA for the purpose of ensuring attainment of the applicable NAAQS by the applicable attainment date." As the EPA has previously explained, this definition is most appropriate for pollutants that are emitted by numerous and diverse sources, where the relationship between any individual source and the overall air quality is not explicitly quantified, and where emission reductions necessary to attain the NAAQS are inventory-wide. We have also previously explained that the definition is generally less pertinent to pollutants like SO_2 that usually have a limited number of sources affecting areas of air quality which are relatively well defined, and emissions control measures for such sources result in swift and dramatic improvements in air quality. That is, for SO_2 there is usually a single "step" between pre-control nonattainment and post-control attainment. Therefore, for SO_2 with its discernible relationship between emissions

> and air quality, and significant and immediate air quality improvements, we explained in the General Preamble that RFP is best construed as "adherence to an ambitious compliance schedule." See 74 FR 13547, April 16, 1992. This means that the air agency needs to ensure that affected sources implement appropriate control measures as expeditiously as practicable in order to ensure attainment of the standard by the applicable attainment date. We believe this guidance continues to be appropriate for the implementation of the 2010 SO_2 NAAQS.

The primary sources of SO_2 in the Marshall, WV 1-hour SO_2 Nonattainment Area consist of EGU facilities located in or adjacent to the area. Evaluation of SO_2 emissions indicate that these sources were the major contributors to ambient SO_2 levels in the area. Closures, along with downsizing of production workforce, have contributed to lower emissions from sources in the area.

Federally enforceable control measures adopted by the West Virginia SIP have directly led to the improvement of the nonattainment area (Refer to section 3.5). Permanent and enforceable reductions through facility shutdowns and fuel switching have substantially lowered ambient SO_2 levels.

The modeled demonstration inventory was developed using the maximum allowable emission limits for the sources. Therefore, temporary reduced production rates and potentially favorable meteorology have not been factors in the attainment demonstration.

3.5. Implementation of RACM including RACT

Section 172(c)(1) of the CAA requires that SIPs for nonattainment areas "provide for the implementation of all RACM 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 RACT) and shall provide for attainment of the national primary ambient air quality standards." As the USEPA has interpreted section 172(c)(1), a state must "consider all potentially available measures to determine whether they are reasonably available for implementation in the area, and whether they would advance the area's attainment date." *See* Approval & Promulgation of Air Quality Implementation Plans, 66 FR 586 at 607 (Jan. 3, 2001); *see also Sierra Club v. EPA*, 294 F.3d 155, 162–63 (D.C. Cir. 2002).

The USEPA has defined RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." (44 FR 53762; September 17, 1979.) *See* Memorandum from Roger Strelow titled, "Guidance for Determining Acceptability of SIP Regulations in Non-Attainment Areas." (December 9, 1976); *see also* ''State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," 57 FR 13498 (April 16, 1992). RACT requirements are specifically intended to impose emission controls for purposes of attainment and maintenance of the NAAQS within a specific nonattainment area. The USEPA has interpreted the terms RACT and RACM as being the level of emissions control that is necessary to provide for expeditious attainment of the NAAQS within a

nonattainment area. *See*, *e.g.* Proposed Rule, 79 FR 32894. Courts have upheld this interpretation of the statute with respect to nonattainment SIPs. *See NRDC v. EPA*, 571 F.3d 1245, 1252-53 (D.C. Cir. 2009).

Any state containing a nonattainment area for a NAAQS is required by the CAA to develop a SIP meeting the requirements of Title I, part D, subparts 1 and 5 of the CAA. Section 172(c) of the CAA requires that the SIP contain provisions that shall provide for the 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 reasonably available control technology) ...". It also requires an attainment demonstration showing that the affected area will meet the standard by the statutory attainment date. 42 U.S. Code § 7514a(a) specifies "Implementation plans required under section 7514(a) of this title shall provide for attainment of the relevant primary standard as expeditiously as practicable but no later than 5 years from the date of the nonattainment designation." For the Marshall, WV nonattainment area, this means an attainment date of no later than October 2018. The USEPA guidance also clearly states that "EPA expects attainment plans to require sources to comply with the requirements of the attainment strategy at least 1 calendar year before the attainment date. Thus, for areas that were designated with an effective date of October 2013, with an attainment deadline that is as expeditiously as practicable, but no later than October 2018, the USEPA would expect states to require sources to begin complying with the attainment strategy in the SIP no later than January 1, 2017." Accordingly, any control strategy determined to meet RACT must be installed and operating no later than January 1, 2017.

RACT is defined in 40 CFR Part 51.100 (o) as "devices, systems, process modifications, or other apparatus or techniques that are reasonably available taking into account:

(1) The necessity of imposing such controls in order to attain and maintain a national ambient air quality standard;
(2) The social, environmental, and economic impact of such controls".

Therefore, any control plan that is sufficient to attain and maintain the NAAQs meets this definition of RACT. RACT in this case is the SO_2 limit to be determined by modeling to allow the area to meet NAAQS. The AEP Mitchell Plant will have a federally enforceable Title V Permit limit based on the modeling that demonstrates attainment.

With regard to RACM, USEPA guidance states that "EPA expects attainment plans to require sources to comply with the requirements of the attainment strategy at least 1 calendar year before the attainment date. Thus, for areas that were designated with an effective date of October 2013, with an attainment deadline that is as expeditiously as practicable, but no later than October 2018, the EPA would expect states to require sources to begin complying with the attainment strategy in the SIP no later than January 1, 2017." *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions, April 23, 2014* ("One-Hour SO_2 Guidance"), pg. 10. Thus, January 1, 2017, provides the benchmark date for demonstrating compliance.

The timing issue regarding the RACM provision in 42 USC Section 172(c)(1), which provides that "such plan provisions shall provide for the implementation of all reasonably available control measures as expeditiously as practicable . . ." USEPA and courts have interpreted this

provision, however, as only requiring a state to consider certain RACM if it would meaningfully advance the area's attainment date. *See* 66 Fed. Reg. 586, 607 (January 3, 2001); *Sierra Club v. EPA*, 294 F.3d 155, 162 (D.C. Cir. 2002).

The area is currently monitoring attainment. Therefore, the attainment date has already been met. Also, due to time constraints, RACM measures would not be applicable in advancing the area's attainment date.

3.6. Transportation Conformity

Transportation Conformity is required under CAA to ensure that federally supported highway and transit project activities are consistent with (conform to) the purpose of a state air quality implementation plan. Conformity to the purpose of the SIP means that transportation activities will not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or required interim milestones. The USEPA's transportation conformity rule establishes the criteria and procedures for determining whether transportation activities conform to the SIP. Conformity applies to transportation activities in nonattainment and maintenance areas for transportation-related pollutants.

The USEPA's "*Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions – April 2014*" specifically addresses SO_2 emissions in relation to the Transportation Conformity rules stating that these rules do not apply to SO_2 unless either the USEPA Regional Administrator or the director of the state agency has found that transportation-related emissions of SO_2 as a precursor are a significant contributor to a $PM_{2.5}$ nonattainment problem. The USEPA Regional Administrator or West Virginia's Director has not found transportation-related SO_2 emissions problems associated with the Marshall, WV area.

Mobile sources on public roadways were not a significant contributor to the nonattainment status of the area. Decline in population in the area indicates a decrease in mobile source emissions. Also, a decline in vehicle emissions is expected as new "clean" vehicles replace "dirty" vehicles as required by USEPA (Tier 2) Motor Vehicle Emission Standards and Gasoline Sulfur Control Requirements.

4.0. MODELING

A dispersion modeling analysis was performed to demonstrate attainment with the 1-hr SO_2 NAAQS. AEP performed the modeling analysis for this SIP in accordance with the final strategy as reviewed and approved by West Virginia Department of Environmental Protection (WVDEP). This section contains a summary of these modeling efforts with the full modeling analysis details contained in Appendix C.

4.1. Source Inventory

The only significant point source of SO_2 emissions currently operating in Marshall County is the Mitchell Power Plant. The other significant sources of SO_2 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.

4.2. Source Characterization

The Mitchell Plant consists of two coal-fired electric generating units rated at ~ 800 MW net each, equipped with an electrostatic precipitator for particulate control, selective catalytic control (SCR) for control of nitrogen oxides (NO_x) and a limestone based flue gas desulfurization (FGD) system for SO_2 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 (10,242.7 lb/hr total for both units), 75% load (7,681.9 lb/hr total for both units), and 50% load (5122.7 lb/hr total for both units) for the EGUs.

4.3. 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 15181) 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.

4.4. 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 15181) is the companion program to AERMOD that generates both a surface file and vertical profile file 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.

4.5. 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.

4.6. Ambient Background Concentration

The uniform background value used in this SIP demonstration is 8.1 ppb (21.2 $\mu g/m^3$). This value was developed by Ohio EPA as part of another nonattainment modeling study in this region covering portions of Jefferson County, OH and Brooke County, WV. This value is consistent with the background value used in the SIP for the WV portion of the Steubenville-Weirton, OH-WV Nonattainment Area, comprising the Cross Creek Tax District of Brooke County.

4.7. Discussion of Results

The results from this analysis are displayed in Table 4.7. As shown in the table, the model results demonstrate attainment of the NAAQS.

Table 4.7. Modeling Analysis Results				
Mitchell Load	**Maximum Model Output including background ($\mu g/m^3$)**	**UTM East**	**UTM North**	**NAAQS Standard**
Full	195.3	518,775.5	4,410,220	196
75%	169.5	518,375.5	4,410,020	196
50%	135.6	518,375.5	4,410,020	196

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

5.0. CONTROL STRATEGY

5.1 National and Regional SO_2 Reductions

Stationary source emissions of SO_2 are limited by new source performance standards (NSPS) under sections 111 and 129 of the CAA; and the national emission standards for hazardous air pollutants (NESHAP) under section 112 of the CAA.

In addition, significant reductions in SO_2 emissions from fossil-fuel fired power plants have occurred and will continue to occur as a result of trading programs including Title IV of the CAA (the Acid Rain Program), the Clean Air Interstate Rule (CAIR), and the Cross-State Air Pollution Rule (CSAPR). Significant reductions of mobile source emissions of SO_2 have also occurred, or will occur, as a result of requirements to reduce the sulfur content of various motor fuels.

Several recent USEPA air quality regulations on EGUs and other large sources (such as various types of boilers and incinerators) have the potential to significantly reduce SO_2 emissions further in the United States. Pursuant to CAA section 112, MACT regulations for coal-and oil fired EGUs, known as the Mercury and Air Toxics Standards, or MATS, were promulgated on February 16, 2012, at 77 FR 9304. These regulations were targeted at reducing EGU emissions of HAPs (e.g., mercury, hydrogen chloride (HCl), hydrogen fluoride (HF), dioxin, and various metals) and are not targeted at reducing emissions of SO_2 (which is a criteria pollutant, not a HAP listed under CAA section 112). USEPA recognizes that some control measures for reducing emissions of HCl, such as scrubbers, concurrently reduce emissions of SO_2.

The USEPA promulgated a rule requiring MACT for major source, including industrial, commercial, and institutional boilers and process heaters. See 40 CFR Part 63 Subpart DDDDD. This rule promulgated limits on emissions of mercury, HCl, particulate matter (as a surrogate for non-mercury metallic HAP), and carbon monoxide (as a surrogate for organic HAP). While some of these rules do not establish limits on emissions of SO_2, compliance with the mercury and HCl limits in these rules is expected to necessitate the installation and operation of control equipment that significantly reduce SO_2 emissions.

The USEPA also promulgated rules requiring generally available control technology (GACT) for area sources, including commercial and industrial solid waste incinerators (CISWI) and sewage sludge incinerators (SSI). See 40 CFR Part 60 Subpart CCCC and 40 CFR Part 60 Subpart DDDD for CISWI and 40 CFR Part 60 Subpart LLLL and 40 CFR Part 60 Subpart MMMM for SSI regulations. These rules, for CISWI and SSI promulgated limits on emissions of mercury, particulate matter, HCl, carbon monoxide (CO), dioxins/furans, SO_2, NO_x, lead, and cadmium.

Regulations to reduce the interstate transport of air pollution are also leading to reductions in SO_2 emissions that may help certain areas attain the 2010 SO_2 NAAQS, including CAIR, which has been replaced by CSAPR and the CSAPR Update. FGD systems that have been installed under the Acid Rain program and CAIR have commonly achieved between 90 and 98 percent control efficiency.

5.2. Local SO_2 Reductions

Figure 2.3. shows the significant sources of SO_2 in Marshall County, WV. Table 5.2. shows SO_2 emissions levels and related information for these sources. Emissions have decreased significantly in Marshall County, WV and these decreases correlate with the reduction in observed SO_2 design values measured at the Moundsville, WV monitor. The shutdown of R. E. Burger, Kammer and Rain CII Carbon resulted in significant SO_2 reductions (~90%) from the 2010-2012 period for the design value upon which the nonattainment designation was based. The emissions will be further reduced from 2015 levels by over 7,500 tons/yr as a result of Eagle Natrium, LLC switching fuel from coal to natural gas.

Table 5.2. Significant SO_2 Facility Emissions 2008 – 2016 (tpy)

County	Facility Name	2008 SO_2	2009 SO_2	2010 SO_2	2011 SO_2	2012 SO_2	2013 SO_2	2014 SO_2	2015 SO_2	2016 SO_2	EGU SO_2 Controls
Marshall, WV	Kammer Power Plant	32,050	16,756	14,127	16,712	19,717	10,580	14,781	4,680	0	None[1]
Marshall, WV	Mitchell Power Plant	3,024	3,178	4,460	4,519	3,455	2,482	4,458	2,915	2,823[5]	FGD
Marshall, WV	Rain CII Carbon	7,630	2,703	1,622	6,031	5,461	4,597	0	0	0	N/A[2]
Marshall, WV	Eagle Natrium, LLC	7,693	5,857	6,754	6,760	6,275	7,156	7,433	7,671	N/A	Fuel switch[3]
Belmont, OH	R.E. Burger	15,126	5,988	12,719	0	0	0	0	0	0	None[4]
TOTAL		**65,523**	**34,482**	**39,682**	**34,022**	**34,908**	**24,815**	**26,672**	**15,266**	**2,823**	

[1]AEP Consent Decree to close facility
[2]Rain CII Carbon closed facility in early 2014
[3]Eagle Natrium, LLC switched from burning coal to burning natural gas
[4]R. E. Burger closed facility in 2010
[5]2016 Data as reported to CAMD through 3rd Quarter

AEP notified WVDEP of the permanent retirement of the Kammer Power Plant as of June 1, 2015, and requested revocation of the facility's Title V permit. Documentation of this notification is attached in Appendix D.

Eagle Natrium, LLC, formerly PPG Industries, applied for and received a federally enforceable permit (R14-0027D, issued July 1, 2014) for the conversion of Boilers #5 and #6. Eagle Natrium, LLC re-configured Boiler #5 to be completely fired by natural gas, which required the heat input size of the unit to be increased to 999 MMBtu/hr. Boiler #5 was restarted on June 10, 2016. Eagle Natrium, LLC configured Boiler #6 to be fired completely on natural gas and retained the ability to consume hydrogen gas. Boiler #6 was restarted on November 12, 2015. The main reason for the modification of these two emission units was compliance with the requirements of Subpart DDDDD of 40 CSR 63 (Boiler Maximum Available Control Technology (MACT)) as "Gas 1" affected sources. The maximum permitted SO_2 emissions from Boilers #5 and #6 is 2.63 tons per year. The permit and supporting documentation are attached in Appendix D.

With the shutdown of these facilities and the conversion of Eagle Natrium, LLC's boilers from coal-fired to natural gas-fired, Mitchell is the only significant source of SO_2 that remains operating in the Marshall area.

5.3. Mitchell Control Strategy

The significant SO_2 sources at Mitchell consist of the two EGUs rated at ~ 800 MW net each, equipped with an electrostatic precipitator for particulate control, SCR for nitrogen oxide and mercury control, and a limestone based FGD system for SO_2 control.

Mitchell also has a few minor sources of SO_2, including a #2 fuel oil-fired auxiliary boiler used for startup of the main coal-fired boilers and supplying building heat when both main boilers are out of service, two emergency diesel generators, and an emergency quench system to protect the FGD system in the event the plant goes offline with no available electric power. Table 5.3. shows the actual SO_2 emissions from these sources for the 2011-2015 period.

Table 5.3. Mitchell SO_2 Emissions by Source 2011-2015 (tpy)

Source	2011 SO_2	2012 SO_2	2013 SO_2	2014 SO_2	2015 SO_2
Unit 1	2153.0	1800.7	764.7	1911.1	1523.8
Unit 2	2366.0	1653.9	1717.0	2546.8	1390.8
Auxiliary Boiler	0.2	0.12	0.49	0.19	0.12
Emergency Quench System (2 Diesel Pumps)	0.0041	0.0009	0.0002	0.0006	0.0002
Emergency Diesel Generators (2 generators)	Not Installed	Not Installed	Not Installed	Not Installed	0.0026
Total	**4519.2**	**3454.7**	**2482.2**	**4458.1**	**2914.7**

The auxiliary boiler is diesel fired and limited to operating no more than 10 percent of the time (876 hours per year) and 17.42 tons of SO_2 emissions per year.

The emergency quench system, which consists of two 60 Bhp pumps, is activated in the event of a loss of on-site power and is limited to 200 hours of operation per year, and 0.02 tons per year of SO_2. The pumps are diesel engine driven to allow operation during blackout conditions.

The emergency diesel generators are used to supply emergency electric power, during a regional power outage, to critical equipment until normal reserve auxiliary power from the grid is restored. The operation of the emergency diesel generators is limited to 500 hours of operation per year, and a total of 0.11 tons per year of SO_2.

The minor sources at Mitchell are rarely operated, with limits on operation from 200 to 876 hours per year, and are permitted for a maximum total of 17.55 tpy.

In 2007, FGD was installed on both Mitchell units to meet the requirements of the CAIR, which was subsequently replaced with the CSAPR, and the federal AEP Consent Decree (Civil Action No. C2-99-1250). The AEP Consent Decree requires the continuous operation of the FGD.

As discussed in Section 4, air dispersion modeling was conducted to demonstrate attainment of the 2010 SO_2 NAAQS of 75 ppb. Attainment was demonstrated at an hourly SO_2 emission rate of 0.60 lb/MMBtu from both units at Mitchell, which equates to a total hourly SO_2 mass emission rate of 10,242.6 lbs/hr. AEP provided an analysis to demonstrate the comparable stringency of a rolling 30-day average emission rate to the modeled 1-hour average emission rate, as suggested by USEPA in their April 2014 *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions* (SO_2 SIP Guidance), Section 5.D.2. *Averaging times for SO_2 emission limits*. Kentucky Power followed the steps established by the USEPA in *Appendix C, Example Determination of Longer Term Average Emission Limits* of the SO_2 SIP Guidance. The comparable SO_2 mass emission rate was determined to be 6,177.85 lbs SO_2/hour on a 30-day rolling average basis.

Consent Order No. CO-SIP-C-2016-31, between WVDEP and Kentucky Power, a subsidiary of AEP, and owner of the Mitchell plant, establishes a maximum SO_2 mass emission limit of 6,175 lb/hr on a 30-day rolling average basis for Mitchell. A copy of Consent Order No. CO-SIP-C-2016-31 can be found in Appendix E. The Consent Order also requires the use of CEMS to determine compliance with the limit, and sets forth semi-annual reporting requirements. The requirements set forth in Consent Order No. CO-SIP-C-2016-31, Order for Compliance, are hereby incorporated by reference for inclusion in the SIP.

6.0. CONTINGENCY MEASURES

Section 172(c)(9) of the CAA requires that nonattainment plan provisions provide for the implementation of specific measures to be undertaken if the area fails to attain the revised SO_2 NAAQS by the attainment date of October 4, 2018 or fails to achieve RFP. 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, USEPA expressly discussed contingency measures for SO_2. This guidance states that in many cases attainment revolves around compliance of a single source or small set of sources with emission limits shown to provide for attainment. This guidance concludes that in such cases, "USEPA interprets 'contingency measures' to mean that the state agency has a comprehensive program to identify sources of violations of the SO_2 NAAQS and to undertake an aggressive follow-up for compliance and enforcement including expedited procedures for establishing enforceable consent agreements pending the adoption of revised SIPs."

Thorough compliance and enforcement inspections, monthly parametric monitoring data review, and quarterly record reviews along with cyclical stack testing constitute an aggressive compliance assurance plan. Non-compliance may lead to an immediate notice of violation and drafting of an enforceable consent order.

The State of West Virginia air monitoring section operates a comprehensive program to identify violations of the SO_2 NAAQS. The state has the authority to implement and enforce all emission limitations and control measures adopted in this SIP revision.

6.1. CAA Section 110(a)(2) Requirements

CAA Section 110(a)(2) specifies the substantive elements that state SIP submissions need to address for USEPA approval and includes requirements for: emissions limits and control measures, ambient air quality monitoring, enforcement of CAA permitting programs, adequate personnel and funding, adequate authorities, stationary source monitoring, consultations with government officials, public notifications, PSD and visibility protection, modeling/data, permitting fees, and participation by affected local entities.

The applicable requirements of CAA Section 110 are satisfied by the West Virginia Infrastructure SIP (Effective 11/17/2014, 79 FR 62022) containing or referencing provisions that satisfy the requirements of section 110(a)(2), as applicable, for purposes of implementing the new or revised SO_2 NAAQS.

7.0. VERIFICATION OF CONTINUED ATTAINMENT

The State of West Virginia's current air quality regulations are sufficient to ensure and maintain NAAQS for SO_2 in the area. The State of West Virginia will continue to monitor SO_2 in the Marshall, WV area to verify continued attainment with NAAQS for SO_2. Air quality measurements will continue to be performed in accordance with appropriate regulations and guidance documents along with USEPA quality assurance requirements. Monitoring procedures will be determined in accordance with 40 CFR Parts 53 and 58 along with the USEPA SO_2 Designations Source-Oriented Monitoring Technical Assistance Document dated May 2013. The State will review monitored ambient SO_2 data annually, review local monitored meteorological data, and assess compliance of local targeted facilities to verify continued attainment of the area. The State will review annual emission inventory for the Marshall, WV area at a minimum of once every three years.

8.0. PUBLIC PARTICIPATION

Notice of this proposed SIP revision, a Class 1 Legal Advertisement, was placed in the Wheeling Intelligencer on December 30, 2016 and published in the State Register on December 30, 2016.

A Public Hearing is scheduled for 6 PM on January 30, 2017, at the WVDEP Northern Panhandle Regional Office located at 131A Peninsula Street Wheeling, West Virginia.

Public participation documentation can be found in Appendix F.

9.0. CONCLUSION

The State of West Virginia requests that the United States Environmental Protection Agency act in a timely manner to approve this attainment demonstration for the West Virginia portion of the Marshall, West Virginia nonattainment area, with an attainment date of October 4, 2018, as a revision to the state implementation plan.