



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R03-OAR-2024-0624; FRL-12500-01-R3]

Air Plan Approval; Pennsylvania; Redesignation of the Beaver County Nonattainment Area to Attainment and Approval of the Area's Maintenance Plan for the 2010 1-Hour Primary Sulfur Dioxide National Ambient Air Quality Standard

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a state implementation plan (SIP) revision and redesignation request submitted on August 12, 2024 by the Pennsylvania Department of Environmental Protection (PADEP). The SIP revision asks the EPA to redesignate the Beaver County, Pennsylvania area from nonattainment to attainment for the 2010 1-hour primary sulfur dioxide (SO₂) national ambient air quality standard (NAAQS). The revision also asks the EPA to approve into the SIP the Commonwealth's maintenance plan for the 2010 1-hour primary SO₂ NAAQS for the Beaver County area. This action is being taken under the Clean Air Act (CAA).

DATES: Written comments must be received on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R03-OAR-2024-0624 at www.regulations.gov, or via email to gordon.mike@epa.gov. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. For either manner of submission, the EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be

accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **For Further Information Contact** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit www.epa.gov/dockets/commenting-epa-dockets.

FOR FURTHER INFORMATION CONTACT: Philip McGuire, Planning & Implementation Branch (3AD30), Air & Radiation Division, U.S. Environmental Protection Agency, Region III, 1600 John F Kennedy Boulevard, Philadelphia, Pennsylvania 19103. The telephone number is (215) 814-2251. Mr. McGuire can also be reached via electronic mail at mcguire.philip@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Background

A. Nonattainment Designation

On June 22, 2010, the EPA revised the primary SO₂ NAAQS, establishing a new 1-hour primary standard of 75 parts per billion (ppb).¹ Under the EPA's regulations at title 40 of the Code of Federal Regulations (CFR) part 50, the 2010 1-hour SO₂ NAAQS is met at a monitoring site when the design value² is less than or equal to 75 ppb (based on the rounding convention in 40 CFR part 50, appendix T).³ Ambient air quality monitoring data for the 3-year period must meet a data completeness requirement. A year meets data completeness requirements when all four quarters are complete, and a quarter is complete when at least 75 percent of the sampling days in the quarter have complete data. A sampling day has complete data if 75 percent of the

¹ 75 FR 35520, June 22, 2010.

² For the 2010 1-hour SO₂ NAAQS, the design value is calculated as the 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations of SO₂.

³ 40 CFR 50.17.

hourly concentration values, including State-flagged data affected by exceptional events which have been approved for exclusion by the Administrator, are reported.⁴

Upon promulgation of a new or revised NAAQS, the CAA requires the EPA to designate as nonattainment any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the NAAQS.⁵ On August 5, 2013, the EPA designated a portion of Beaver County, Pennsylvania (hereafter the “Beaver County NAA”), as nonattainment for the 2010 1-hour primary SO₂ NAAQS, effective October 4, 2013.⁶ The designation was based on violating air quality monitoring data for calendar years 2009–2011. The Beaver County NAA consists of 6 municipalities including: Industry Borough, Shippingport Borough, Midland Borough, Brighton Township, Potter Township, and Vanport Township.⁷ This action established an attainment date five years after the effective date for the areas designated as nonattainment for the 2010 SO₂ NAAQS (i.e., by October 4, 2018). The Commonwealth was also required to submit an attainment plan SIP revision for the Beaver County NAA to the EPA that met the requirements of CAA sections 110, 172(c) and 191–192 within 18 months of the October 4, 2013, effective date of designation (i.e., by April 4, 2015).

B. Relevant Historical SIP Actions

The EPA did not receive an attainment plan SIP revision for the Beaver County NAA by the April 4, 2015 deadline and subsequently on March 18, 2016, the EPA published a finding of failure to submit indicating that Pennsylvania did not submit the required SO₂ attainment plan.⁸ This finding initiated a clock under CAA section 179(a) for the potential imposition of new source review sanctions 18 months after the effective date of the finding and the potential imposition of highway funding sanctions 6 months following that, in accordance with CAA section 179(b) and 40 CFR 52.31. Additionally, under CAA section 110(c), the finding triggered

⁴ 40 CFR part 50, appendix T, section 3.1(b).

⁵ CAA section 107(d)(1)(A)(i).

⁶ 78 FR 47191, August 5, 2013.

⁷ A list of Pennsylvania’s attainment status designations is available at 40 CFR 81.339.

⁸ 81 FR 14736, March 18, 2016.

a requirement for the EPA to promulgate a Federal implementation plan (FIP) within two years of the effective date of the finding unless, by that time, Pennsylvania made the necessary complete submittal, and the EPA approved the submittal.

Ultimately, Pennsylvania did submit an attainment plan SIP revision on September 29, 2017. The EPA issued an October 5, 2017 letter to Pennsylvania finding the attainment plan submittal complete and noting the stopping of the sanctions' deadline. As a result, these CAA section 179(b) sanctions were not imposed.⁹ The EPA proposed approving the attainment plan SIP revision submittal on October 5, 2018,¹⁰ and issued a final approval on October 1, 2019.¹¹ This approval ended the requirement for the EPA to promulgate a FIP under CAA section 110(c).

Relevant to this action, on August 12, 2024, PADEP submitted a revision to its SIP for the inclusion of a maintenance plan for the 2010 1-hour primary SO₂ NAAQS and requested a concurrent redesignation of the Beaver County NAA to attainment for the 2010 1-hour primary SO₂ NAAQS.¹²

C. Redesignation to Attainment Criteria

After a State has submitted a redesignation request for a nonattainment area, the EPA must assess if the statutory criteria identified in CAA section 107(d)(3)(E) have been met to redesignate the area to attainment. These conditions include: (1) the EPA has determined that the applicable NAAQS has been attained; (2) the applicable SIP has been fully approved by the EPA under CAA section 110(k); (3) the EPA has determined that the improvement in the area's air quality is due to permanent and enforceable reductions in emissions; (4) the area has a fully approved maintenance plan, including a contingency plan, under CAA section 175A; and (5) the State has met all applicable requirements for the area under CAA section 110 and part D. The

⁹ Both the 2017 attainment plan submittal and EPA completeness letter are available in the docket for this action and are titled *Beaver County September 2017 Attainment Plan* and *EPA Letter of Completeness dated October 5, 2017*, respectively.

¹⁰ 83 FR 50314, October 5, 2018.

¹¹ 84 FR 51988, October 1, 2019.

¹² Available in the docket for this action as *Beaver_SO2_RR_and_MP*.

EPA has provided direction for how it would consider if these conditions have been met in the April 23, 2014 memorandum “Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions” (2014 SO₂ Guidance).¹³

D. Maintenance Plan Approval Criteria

CAA section 175A and additional EPA guidance, including the September 4, 1992 memorandum “Procedures for Processing Requests to Redesignate Areas to Attainment” (Calcagni Memo),¹⁴ identify the required elements for an approvable maintenance plan for areas seeking redesignation from nonattainment to attainment. Under CAA section 175A, the plan must demonstrate continued attainment of the applicable NAAQS for at least 10 years after the EPA approves a redesignation request to attainment. Eight years after the redesignation, the State must submit a revised maintenance plan demonstrating that attainment will continue to be maintained for an additional 10 years following the initial 10-year period. To address the possibility of future NAAQS violations, the maintenance plan must contain contingency measures, as the EPA deems necessary, to assure prompt correction of any future NAAQS violations, in this case the 2010 1-hour SO₂ NAAQS. The Calcagni Memo provides further guidance on the content of a maintenance plan, explaining that a maintenance plan should address five requirements: (1) an attainment emissions inventory that identifies the level of emissions in the area which is sufficient to attain the NAAQS; (2) a maintenance demonstration that shows future emissions of a pollutant will not exceed the level of the attainment inventory; (3) the continued operation of a monitoring network that conforms to 40 CFR part 58; (4) a means for verifying the continued attainment of the NAAQS; and (5) a contingency plan to correct any violation of the NAAQS in the area following redesignation of the area.

II. Summary of SIP Revision and EPA Analysis

¹³ Available in the docket for this action as *2014_SO2_Guidance* and at www.epa.gov/sites/default/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf.

¹⁴ Available in the docket for this action as *Calcagni_Memo* and at www.epa.gov/sites/default/files/2016-03/documents/calcagni_memo_procedures_for_processing_requests_to_redesignate_areas_to_attainment_090492.pdf. Both the 2014 SO₂ Guidance and Calcagni Memo provide similar guidance on redesignation requests and maintenance plans and these reference documents may be used interchangeably in this action.

The EPA's evaluation of Pennsylvania's redesignation request and maintenance plan for the Beaver County NAA is based on consideration of the five redesignation criteria provided under CAA section 107(d)(3)(E) and relevant guidance, including the aforementioned 2014 SO₂ Guidance and Calcagni Memo.

A. Criterion (1) – The Beaver County SO₂ Nonattainment Area has Attained the 2010 1-Hour SO₂ NAAQS

CAA section 107(d)(3)(E)(i) requires that the EPA determine that a nonattainment area has attained the applicable NAAQS in order to redesignate the area to attainment. In assessing if the area has attained the NAAQS, the 2014 SO₂ Guidance stipulates that the EPA can interdependently consider two components to support an attainment determination: air quality monitoring data and air quality modeling data.¹⁵

The Beaver County NAA contains one operational SO₂ monitor site, located in Brighton Township (Air Quality System (AQS) Site ID 42-007-0005). The Brighton monitor has been in operation since 1994 when active SO₂ sources and emissions within the area were substantially different than current conditions, due to facility shutdowns in more recent years. Since the 2013-2015 period, the Brighton monitor has been in attainment of the 2010 1-hour primary SO₂ NAAQS with the most recent design value for the 2021-2023 period measuring 5 parts per billion (ppb), though this design value did not meet data completeness requirements. Previously, PADEP also operated a second SO₂ monitor in the vicinity of the Beaver NAA. The Hookstown monitor (AQS Site ID 42-007-0002) was located approximately 4.5 miles southwest of the edge of the Beaver NAA and was in operation from 1983 until 2022. The Hookstown monitor was in attainment of the 2010 1-hour primary SO₂ NAAQS since the 2010-2012 period with the most recent design value for the 2020-2022 period measuring 11 ppb, though this design value did not meet data completeness requirements. Design values for both the Brighton and Hookstown monitors are reported in Table 1 in this document.

¹⁵ See *2014_SO2_Guidance*, at 62.

Table 1: 2014-2023 SO₂ Design Values for Beaver County Nonattainment Area Monitor Sites (parts per billion)

Monitor Site	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020	2019-2021	2020-2022	2021-2023
Brighton	109*	39	33	27	22	17	10	6*	5*	5*
Hookstown	31*	25	27	21	21	17	16	13*	11*	-

* Indicates year in which the design value did not meet data completeness requirements.

Pennsylvania's 2017 attainment plan contained an attainment demonstration which utilized allowable SO₂ emission limits from stationary sources within the Beaver County NAA to inform several modeling analyses for SO₂ emissions.¹⁶ These modeling analyses were based on emissions limits for large, stationary sources of SO₂, which, when enacted, would ensure that the Beaver County NAA would attain the 2010 1-hour primary SO₂ NAAQS. The 2014 SO₂ Guidance states that the EPA may make a determination of attainment based on this attainment plan modeling, eliminating the need for separate actual emissions-based modeling to support a redesignation request – provided that the source characteristics are still reasonably represented and that the control strategy in the SIP has been fully implemented.¹⁷

Since Pennsylvania's 2017 submittal of this attainment plan modeling – which EPA approved in 2019 (84 FR 51988, October 1, 2019) – operations at large, stationary SO₂ sources within the Beaver County NAA have changed, but the EPA has determined that source characteristics are reasonably represented. Specifically, the 2019 closure of the Bruce Mansfield facility has reduced SO₂ emissions within the Beaver County NAA by approximately 4,427 tons per year from 2018 levels. Conversely, the Shell ethane cracker, which utilized an emission rate of 21 tons per year in the attainment plan modeling, was permitted an increased emission limit of 22.4 tons per year – though, it should be recognized that the Shell facility has not emitted greater than 1 ton of SO₂ per year since coming online. Despite these changes, the source characteristics are still reasonably represented as the closure of the Bruce Mansfield facility leads to a modeled overestimation of actual operations of SO₂ sources within the Beaver County NAA and the 1.4 ton per year increase to the Shell ethane cracker permitted limit is negligible in the context of the

¹⁶ See *Beaver County September 2017 Attainment Plan*, available in the docket for this action.

¹⁷ See *2014_SO_Guidance*, at 50.

approximately 4,427 ton per year reduction from the Bruce Mansfield closure.

The 2014 SO₂ Guidance further states that a demonstration that the control strategy in the SIP has been fully implemented will also be pertinent for making the determination of attainment.¹⁸ Pennsylvania has submitted information detailed in its redesignation request and maintenance plan to confirm that the control strategy outlined in the SIP has been fully implemented. Specific measures identified in the control strategy include emissions restrictions at the Bruce Mansfield facility and reactivation restrictions at the Allegheny and Tsingshan Stainless Acquisition Melt Shop, which was shut down in 2018.¹⁹ As the Bruce Mansfield facility has closed and the Allegheny and Tsingshan Stainless Melt Shop facility has since been permanently removed from service, these facilities are in compliance with the proposed control strategy.²⁰ These implemented permanent and federally enforceable control measures have aided in reducing the actual total emissions from large, stationary SO₂ sources in the Beaver County NAA to 4,539 tons per year (as of 2018),²¹ which is well below the revised total emissions limits proposed for Beaver County NAA facilities in the 2017 attainment demonstration modeling (32,420 tons per year),²² thus contributing to bringing the Beaver County NAA into attainment. The closure of the Bruce Mansfield facility in 2019 led to an additional reduction of approximately 4,427 tons of SO₂ from 2018 levels, bringing current total SO₂ emissions in the Beaver County NAA closer to approximately 100 tons per year.

As the source characteristics within the Beaver County NAA are still reasonably represented and the control strategy in the SIP has been fully implemented, the EPA may make a determination of attainment based on this attainment plan modeling. In this action, the EPA proposes to find that the air quality modeling data demonstrate that the Beaver County NAA has

¹⁸ Ibid.

¹⁹ The Allegheny and Tsingshan Stainless facility was transferred to Allegheny and Tsingshan Stainless LLC by Jewel Acquisition on February 27, 2018. Supplemental information in the docket for this action may refer to this facility as under ownership of either Allegheny and Tsingshan Stainless or Jewel.

²⁰ Documentation of these closures is in *Beaver_SO2_RR_and_MP_App_B_Facilities*, available in the docket for this action.

²¹ See *Beaver_SO2_RR_and_MP*, at 12.

²² See *Beaver County September 2017 Attainment Plan*, at 14.

attained the 2010 1-hour primary SO₂ NAAQS, with the air quality monitoring data further supporting this conclusion.

B. Criterion (2) – Pennsylvania has a Fully Approved SIP under Section 110(k)

CAA section 107(d)(3)(E)(ii) requires that the EPA fully approve the applicable implementation plan for the area under CAA section 110(k) in order to redesignate that area to attainment. An area cannot be redesignated to attainment if a required element of the SIP is the subject of a disapproval; a finding of failure to submit, or failure to implement the SIP; or a partial, conditional, or limited approval.²³ The 2017 attainment plan SIP was initially proposed for EPA approval on October 5, 2018²⁴ and received final EPA approval on October 1, 2019.²⁵ The approved elements from the 2017 attainment plan include a 2011 base year emissions inventory, a control strategy and air quality modeling demonstration, a reasonable available control measures/reasonably available control technology (RACM/RACT) analysis, a reasonable further progress (RFP) analysis, contingency measures, and nonattainment new source review (NNSR) regulations. As such, the EPA has fully approved the applicable Pennsylvania SIP for the Beaver County NAA under section 110(k) of the CAA for all requirements applicable for purposes of redesignation.

C. Criterion (3) – The Air Quality Improvement in the Beaver County SO₂ Nonattainment Area is Due to Permanent and Enforceable Reductions in Emissions

For redesignating a nonattainment area to attainment, CAA section 107(d)(3)(E)(iii) requires the EPA to determine that the air quality improvement in the area is due to permanent and enforceable reductions in emissions resulting from implementation of the SIP, applicable Federal air pollution control regulations, and other permanent and enforceable reductions. The EPA proposes to find that Pennsylvania has demonstrated that the requirements of CAA section 107(d)(3)(E)(iii) have been met.

²³ See *2014 SO₂ Guidance*, at 64.

²⁴ 83 FR 50314, October 5, 2018.

²⁵ 84 FR 51988, October 1, 2019.

Specifically, the closures of multiple facilities aided in a substantial decrease in SO₂ emissions, and consequently, lower SO₂ concentrations in the Beaver County NAA. These closures include the following shutdowns: the Horsehead/Monaca Smelter in 2013, the AES Beaver Valley facility in 2015, the Allegheny and Tsingshan Stainless Melt Shop in 2018, and the Bruce Mansfield facility in 2019.²⁶ Collectively, these closures account for a reduction of approximately 26,458 tons of SO₂ emitted per year from 2011 levels.²⁷ The Calcagni Memo states that “[e]mission reductions from source shutdowns can be considered permanent and enforceable to the extent that those shutdowns have been reflected in the SIP and all applicable permits have been modified accordingly,” and therefore these shutdowns are considered permanent and enforceable.²⁸ Furthermore, the recently constructed Shell ethane cracker and the nearby IPSCO Koppel facility have had SO₂ emissions limits included in their operating permits to preserve air quality improvements in the Beaver County NAA.²⁹

Collectively, facility closures and the permitted SO₂ emissions rates resulted in an actual decrease of approximately 22,052 tons of SO₂ emitted per year from 2011 to 2018. This is approximately an 83% reduction from 2011 levels of 26,622 tons of SO₂ emitted per year.³⁰ As this reduction comes from facility closures and permit-controlled emission limits, the EPA proposes to find the air quality improvement in the Beaver County NAA to be due to permanent and enforceable reductions in emissions.

D. Criterion (4) – The Beaver County SO₂ Nonattainment Area has a Fully Approved Maintenance Plan Pursuant to Section 175A of the CAA

To redesignate a NAA to attainment, CAA section 107(d)(3)(E)(iv) requires the EPA to determine that the area has a fully approved maintenance plan pursuant to section 175A of the

²⁶ Documentation of the closures of the Horsehead/Monaca Smelter and AES Beaver Valley are in *Beaver County September 2017 Attainment Plan App A Facility Closures*, available in the docket for this action. Documentation of the closures of the Allegheny and Tsingshan Stainless Melt Shop and the Bruce Mansfield facility are in *Beaver SO₂ RR and MP App B Facilities*, available in the docket for this action.

²⁷ Based on reported 2011 SO₂ emissions from these facilities, see *Beaver SO₂ RR and MP*, at 12.

²⁸ See *Calcagni Memo*, at 10.

²⁹ Documentation of each facility’s operating permit is in *Beaver SO₂ RR and MP App B Facilities*.

³⁰ See *Beaver SO₂ RR and MP*, at 11.

CAA. In conjunction with its request to redesignate the Beaver County NAA to attainment for the 2010 1-hour primary SO₂ NAAQS, the State submitted a SIP revision to provide for the maintenance of the 2010 1-hour primary SO₂ NAAQS for at least 10 years after the effective date of redesignation to attainment. The EPA is proposing to find that this maintenance plan meets the requirements for approval under section 175A of the CAA.

1. Maintenance Plan Requirements

CAA section 175A sets forth the elements of a maintenance plan. Under section 175A, the plan must demonstrate continued attainment of the applicable NAAQS for at least 10 years after the Administrator approves a redesignation request to attainment. Eight years after the redesignation, the State must submit a revised maintenance plan demonstrating that attainment will continue to be maintained for an additional 10 years following the initial 10-year period. To address the possibility of future NAAQS violations, the maintenance plan must contain contingency measures as the EPA deems necessary to assure prompt correction of any future NAAQS violations, here the 2010 1-hour primary SO₂ NAAQS. As noted above, the Calcagni Memo provides further guidance on the content of a maintenance plan, explaining that a maintenance plan should address five requirements: (1) the attainment emissions inventory; (2) maintenance demonstration; (3) monitoring; (4) verification of continued attainment; and (5) a contingency plan.³¹ As discussed in detail below, the EPA is proposing to determine that Pennsylvania's submitted maintenance plan meets the requirements in CAA section 175A and is thus proposing to approve it as a revision to the Beaver County portion of the Pennsylvania SIP.

2. Attainment Emissions Inventory

In a maintenance plan, states are required to submit an emissions inventory to identify the level of emissions in the area which is sufficient to attain and maintain the relevant NAAQS, which is called the attainment inventory. This inventory is used as the basis for future, projected emission inventories that are used to show the area will remain in attainment. Pennsylvania

³¹ See *Calcagni Memo*, at pp. 8-13.

submitted a 2018 SO₂ emissions inventory as the attainment inventory with its maintenance plan. This represented a year in which SO₂ emissions were at levels required to demonstrate attainment of the 2010 SO₂ NAAQS.

For the 2018 attainment year inventory, Pennsylvania directly used point source emissions reported to Pennsylvania for 2018, except for the Heritage Valley Beaver heliport,³² which was projected from the 2017 National Emission Inventory (NEI).³³ The point source emissions for the Beaver County NAA were verified against the EPA's emissions inventory system (EIS) and the EPA found them to be acceptable. Projected emissions for area sources in 2018 were estimated from the 2017 NEI emission data and growth factors developed by the Mid-Atlantic Regional Air Management Association (MARAMA), Inc. These growth factors are developed based on forecasts from various databases and tools, including the Energy Information Administration's 2019 and 2020 Annual Energy Outlook, the 2016 NEI Collaborative data for the rail and the oil and gas Source Classification Codes, and other sources that are detailed in the submitted maintenance plan.³⁴ Area source emissions were estimated based on the relative percentage of the Beaver County population residing in the Beaver County NAA and the resulting factor allocated the appropriate fraction of the County's total emissions to the Beaver County NAA.

Nonroad and onroad mobile source emissions for 2017 were obtained from the EPA's Motor Vehicle Emissions Simulator (MOVES) model, specifically the MOVES2014b version. PADEP executed the MOVES2014b modeling runs for nonroad mobile sources and utilized a contractor to run the model for onroad mobile source emissions.

Projected inventories from the attainment inventory demonstrate that the area will continue to remain in attainment throughout the first maintenance period. Pennsylvania

³² Referred to as MCBC heliport in *Beaver_SO2_RR_and_MP*.

³³ The NEI is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emissions sources. The NEI is released every three years based primarily upon data provided by State, Local, and Tribal air agencies for sources in their jurisdictions and supplemented by data developed by the US EPA, available at www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei.

³⁴ See *Beaver_SO2_RR_and_MP*, at 18.

developed 2028 and 2036 emission projections for the interim and maintenance plan end year, respectively. Projected emissions for these years – as well as the base year inventory – are available in Table 2 in this document. Projected emissions for point and area sources were estimated, as previously described for area sources, from the 2017 NEI and growth factors developed by MARAMA. Point sources that have shut down since the 2018 base year were excluded from the 2028 and 2036 projections, namely the Bruce Mansfield facility. Nonroad and onroad mobile source emissions for the projected years 2028 and 2036 were estimated from the MOVES2014b version. MOVES2014b modeling runs were once again executed by PADEP for nonroad mobile source emissions and by the contractor for onroad mobile source emissions. Additional details on some of the assumptions and inputs to the model are available in the redesignation request and its associated Appendices C5 and C6.³⁵

Table 2: Emissions Inventories for the Beaver County Nonattainment Area (tons of SO₂ per year)

Sector	2018 Actual Emissions (Base Year)	2028 Projected Emissions (Interim Year)	2036 Projected Emissions (Maintenance Year)
Point Sources	4,539	80	94
Area Sources	4	6	6
Nonroad Mobile Sources	0	0	1
Onroad Mobile Sources	1	1	1
Total	4,544	87	101*

*Discrepancy in summed emissions is due to rounding.

3. Maintenance Demonstration

The Calcagni memo describes two ways for a State to demonstrate maintenance of the NAAQS for a period of at least 10 years following the redesignation of the area: (1) the State can show that future emissions of a pollutant will not exceed the level of the attainment inventory, or (2) the State can model to show that the future mix of sources and emission rates

³⁵ See *Beaver SO₂ RR and MP*, at 21; *Beaver SO₂ RR and MP App C5 Mobile inv narrative*; and *Beaver SO₂ RR and MP App C6 Mobile Beaver SO₂ Summary*.

will not cause a violation of the standard.³⁶ Pennsylvania's projected actual emissions for the interim year of 2028 and for the maintenance year of 2036 are both below the total attainment inventory, which is acceptable for showing maintenance in the Beaver County NAA, as shown in Table 2 in this document.

4. Monitoring Network

The 2014 SO₂ Guidance indicates that once an area has been redesignated to attainment, the state should continue to operate an appropriate air quality monitoring network as provided under 40 CFR part 58 to verify the attainment status of the area. Pennsylvania has committed to continued operation of its SO₂ monitoring network in the Beaver County NAA to verify the attainment status. Also, Pennsylvania will continue to submit an annual monitoring network plan to the EPA for approval, in accordance with 40 CFR 58.10. No changes will be made to the existing network unless pre-approved by the EPA. The EPA proposes to find that these measures are sufficient for purposes of the maintenance plan.

5. Verification of Continued Attainment

The 2014 SO₂ Guidance states that each air agency should ensure that it has the legal authority to implement and enforce all measures necessary to attain and maintain the 2010 SO₂ NAAQS. The air agency's submittal should indicate how it will track the progress of the maintenance plan for the area either through air quality monitoring or modeling.

Pennsylvania Air Pollution Control Act (APCA) section 4(27) grants PADEP the legal authority to implement all measures necessary to enforce the APCA, including maintaining the 2010 1-hour primary SO₂ NAAQS. In addition, PADEP has indicated it will track the progress of the maintenance plan through an integrated approach utilizing air quality monitoring data and emissions inventories.

As previously indicated, PADEP will continue to operate its SO₂ monitoring network to verify the attainment status of the Beaver County NAA. PADEP will also use emissions

³⁶ See *Calcagni_Memo*, at 9.

inventories – developed annually for major point sources and triennially for area and mobile sources – to assess emissions trends. PADEP has also committed to submitting an additional SIP revision 8 years following redesignation to establish the Commonwealth’s plan for maintaining the 2010 SO₂ NAAQS for an additional 10 years, as required by CAA section 175A(b).

The EPA proposes to find that these proposed measures will provide for verifying continued attainment within the Beaver County NAA.

6. Contingency Measures

Section 175A(d) of the CAA requires that a maintenance plan include such contingency measures as the EPA deems necessary to assure that the State will promptly correct a violation of the NAAQS that occurs after redesignation. The maintenance plan should identify the contingency measures to be adopted, a schedule and procedure for adoption and implementation, and a time limit for action by the State. A State should also identify specific indicators to be used to determine when the contingency measures need to be implemented. The maintenance plan must also include a requirement that a State will continue to implement all measures with respect to control of the pollutant that were contained in the SIP before redesignation of the area to attainment.

Pennsylvania has committed to continuing implementation of all applicable measures indicated in the SIP after redesignation of the Beaver County NAA.³⁷ Furthermore, Pennsylvania has identified a triggering indicator for its contingency measures, a schedule for implementing these potential measures, and has specified potential options to correct any NAAQS violation.³⁸

SO₂ monitoring data will serve as the primary trigger for any responses to prevent or correct a NAAQS violation in the Beaver County NAA. If a 1-hour daily maximum concentration exceeding 75 ppb is registered at a PADEP-operated SO₂ monitor in the Beaver County NAA, PADEP will proceed with an investigation and enforcement, as appropriate. The

³⁷ See *Beaver_SO2_RR_and_MP*, at 23.

³⁸ See *Beaver_SO2_RR_and_MP*, at 23 and *Beaver County September 2017 Attainment Plan*, at 37-39.

2017 attainment plan details that within 5 business days of the identified exceedance, the PADEP Bureau of Air Quality monitoring division will contact the Air Resource Management Division Chief and the Southwest Regional Office Air Program Manager to report the monitored data. If it is deemed necessary to take action, section 4(27) of the Pennsylvania APCA authorizes PADEP to take any action it deems necessary, such as the issuance of orders to take corrective action and the assessment of civil penalties.

As the 2036 projected inventory estimates approximately 100 tons of SO₂ emissions per year compared to the approximately 4,500 tons of SO₂ emissions per year in the 2018 attainment year inventory, it is not expected that there will be a future monitor exceedance in the Beaver County NAA. Nevertheless, Pennsylvania has committed to adopting and implementing corrective actions, as necessary and appropriate.

The EPA proposes to find that these contingency measures are sufficient. Consistent with the above proposed findings, the EPA proposes to find that Pennsylvania's submitted maintenance plan meets the requirements set forth in CAA section 175A and EPA guidance, and is proposing to approve the maintenance plan as a revision to the Pennsylvania SIP.

E. Criterion (5) – Pennsylvania has Met All Applicable Requirements under Section 110 and Part D of Title I of the CAA

In accordance with section 107(d)(3)(E)(v) of the CAA, to redesignate the Beaver County NAA to attainment, Pennsylvania must meet all requirements applicable to the Beaver County NAA under CAA section 110 (general SIP requirements) and part D of title I of the CAA (SIP requirements for nonattainment areas).

1. Section 110 General Requirements for SIPs

Pursuant to CAA section 110(a)(1), whenever new or revised NAAQS are promulgated, the CAA requires States to submit a plan (i.e., SIP) for the implementation, maintenance, and enforcement of such NAAQS. Section 110(a)(2) of title I of the CAA contains the general requirements for a SIP, also known as “infrastructure” requirements. These requirements include,

but are not limited to, the following: submittal of a SIP that has been adopted by the state after reasonable public notice and hearing; provisions for establishment and operation of appropriate procedures needed to monitor ambient air quality; implementation of a source permit program; provisions for the implementation of part C requirements (Prevention of Significant Deterioration (PSD)) and provisions for the implementation of part D requirements (Nonattainment New Source Review (NNSR) permit programs); provisions for air pollution modeling; and provisions for public and local agency participation in planning and emission control rule development.

CAA section 110(a)(2)(D) requires that SIPs contain certain measures to prevent sources in a state from significantly contributing to air quality problems in another state. To implement this provision, the EPA has required certain states to establish programs to address the interstate transport of air pollutants.³⁹ The section 110(a)(2)(D) requirements for a state are not linked with a particular nonattainment area's designation and classification in that state. The EPA has concluded that the requirements linked with a particular nonattainment area's designation and classifications are the relevant measures to evaluate in reviewing a redesignation request. The transport SIP submittal requirements, where applicable, continue to apply to a state regardless of the designation of any one particular area in the state. Thus, the EPA has concluded that the CAA's interstate transport requirements should not be construed to be applicable requirements for purposes of redesignation.

In addition, the EPA has concluded other section 110 elements – those that are neither connected with nonattainment plan submissions nor linked with an area's attainment status – are not applicable requirements for purposes of redesignation. The area will still be subject to these requirements after the area is redesignated. The section 110 and part D requirements which are linked with a particular area's designation and classification are the relevant measures to

³⁹ See Nitrogen Oxides (NO_x) SIP Call and amendments to the NO_x SIP Call (64 FR 26298, May 14, 1999 and 65 FR 11222, March 2, 2000), and the Cross-State Air Pollution Rule (CSAPR) Update (81 FR 74504, October 26, 2016).

evaluate in reviewing a redesignation request. This approach is consistent with the EPA's existing policy on applicability (i.e., for redesignations) of conformity and oxygenated fuels requirements, as well as with section 184 ozone transport requirements. See Reading, Pennsylvania, proposed and final rules (61 FR 53174–53176, October 10, 1996), (62 FR 24826, May 7, 2008); Cleveland-Akron-Lorain, Ohio, final rule (61 FR 20458, May 7, 1996); and Tampa, Florida, final rule (60 FR 62748, December 7, 1995). See also the discussion on this issue in the Cincinnati, Ohio, redesignation (65 FR 37890, June 19, 2000), and in the Pittsburgh, Pennsylvania, redesignation (66 FR 50399, October 19, 2001).

The EPA approved elements of Pennsylvania's June 15, 2014 SO₂ infrastructure SIP submittal on August 5, 2015.⁴⁰ As explained previously, certain general requirements of CAA section 110(a)(2) are statewide requirements that are not linked to the nonattainment status of the Beaver County NAA and are therefore not "applicable requirements" for the purpose of reviewing Pennsylvania's redesignation request. Because Pennsylvania satisfies the general SIP elements and requirements set forth in CAA section 110(a)(2) applicable to and necessary for SO₂ redesignation with the EPA's August 5, 2015 approval of the infrastructure SIP, the EPA proposes to conclude that Pennsylvania has satisfied the criterion of section 107(d)(3)(E)(v) related to section 110(a)(2) of the CAA.

2. Part D Requirements

In addition to the CAA section 110 requirements, section 107(d)(3)(E)(v) requires that the state meet all the requirements applicable to the nonattainment area "under part D of this subchapter" for the nonattainment area to be redesignated. Both section 107 and part D are within Title 1 of the CAA. Part D, entitled "Plan Requirements for Nonattainment Areas," consists of six subparts, of which only subparts 1 and 5 are applicable to SO₂ nonattainment areas. Subpart 1 (sections 171 through 179B) contains provisions that can apply to all nonattainment areas for all criteria pollutants, while subpart 5 (sections 191 and 192) contains

⁴⁰ 80 FR 46494, August 5, 2015.

additional provisions for SO₂, NO_x, or lead nonattainment areas. The requirements applicable to this redesignation regarding the 2010 SO₂ NAAQS are discussed below, as applicable to SO₂.

a. Subpart 1 Requirements

1. Section 172 Requirements

CAA section 172 requires states with nonattainment areas to submit plans that provide for timely attainment of the NAAQS. More specifically, CAA section 172(c) contains general requirements for nonattainment plans. A thorough discussion of these requirements is found in the General Preamble for Implementation of title I.⁴¹

As noted in the General Preamble, certain attainment-related planning requirements under CAA section 172(c) no longer have meaning for an area that is already attaining the NAAQS, and therefore are not applicable for purposes of redesignation. For example, for an area that is already attaining the NAAQS, there would be nothing for the State to provide to show reasonable further progress to attainment in that area. Similarly, the CAA section 172 requirements for the attainment demonstration, implementation of reasonably available control measures, including reasonably available control technology, and contingency measures that are triggered if an area fails to meet RFP or fails to attain are also not applicable for purposes of redesignation.

With respect to CAA section 172(c)(3), Pennsylvania was required to submit an actual current emissions inventory with its attainment plan.⁴² Pennsylvania had submitted a base year inventory with its attainment plan SIP on September 29, 2017 and the EPA approved this element on October 1, 2019.⁴³

2. Section 173 Requirements

Section 173 of the CAA includes requirements for permit programs that are required in a

⁴¹ 57 FR 13498, April 16, 1992.

⁴² With respect to CAA section 172(c)(5), Pennsylvania is required to have a permit program for the construction and operation of new or modified major stationary sources within the nonattainment area. Discussion on this requirement is provided in section II.E.2.a.2. "Section 173 Requirements," in this document.

⁴³ 84 FR 51988, October 1, 2019.

nonattainment area for new sources as required by section 172(c)(5), known as nonattainment new source review (NNSR). However, the EPA has a longstanding interpretation that because the NNSR permit program is replaced by the prevention of significant deterioration (PSD) permit program upon an area's redesignation to attainment, nonattainment areas seeking redesignation to attainment do not need a fully approved part D NNSR program to be redesignated. A more detailed rationale for this view is described in a memorandum from Mary Nichols, Assistant Administrator for Air and Radiation, dated October 14, 1994, entitled, "Part D New Source Review Requirements for Areas Requesting Redesignation to Attainment."⁴⁴ Nevertheless, the EPA notes that Pennsylvania's Code has SIP-approved NNSR and PSD programs found at 25 Pa. Code 127.201-127.218 for NNSR and at 25 Pa. Code 127.81-127.83 for PSD. Pennsylvania's PSD regulations merely incorporate by reference the Federal PSD regulations found at 40 CFR part 52. Beaver County has therefore addressed all required provisions for the permitting of sources in NAAs, including NNSR. See 40 CFR 52.2020(c). Pennsylvania's PSD program will become applicable for SO₂ in the Beaver County NAA if redesignation to attainment is finalized.

3. Section 175A Requirements

CAA section 175A requires that states seeking redesignation of an area to attainment submit a "maintenance plan" containing certain elements. Pennsylvania included a maintenance plan for the Beaver County NAA with its August 12, 2024 redesignation request, which the EPA is proposing to approve in conjunction with the redesignation, and it is discussed in detail in section II.D, Criterion (4) of this document.

4. Section 176 Requirements

Section 176(c) of the CAA requires that Federal actions conform to the air quality planning goals in the applicable SIP. The requirement to determine conformity applies to transportation plans, programs, and projects that are developed, funded, or approved under title

⁴⁴ Available in the docket for this action as *Nichols_Memo* and at www.epa.gov/sites/default/files/2015-07/documents/101494m.pdf

23 of the United States Code and the Federal Transit Act (transportation conformity) as well as to all other Federally-supported or funded projects (general conformity). Section 176(c) of the CAA also requires that states establish criteria and procedures to ensure that Federally-supported or funded transportation plans, transportation improvement programs (TIPs) and projects conform to the goals of the applicable SIP. This is referred to as a transportation conformity SIP. In the preamble to the January 1993 proposed transportation conformity rule, the EPA stated that, “[b]ased on available emissions information, EPA believes highway and transit motor vehicles are not significant sources of lead or sulfur dioxide. Therefore, transportation plans, TIPs, and projects are presumed to conform to the applicable implementation plans for these pollutants.”⁴⁵ In November 1993, the EPA finalized its transportation conformity regulations. One section of those regulations addressed the geographic applicability of the transportation conformity regulations. The regulation stated at that time that, “[t]he provisions of this subpart apply with respect to emissions of the following criteria pollutants: Ozone, carbon monoxide, nitrogen dioxide, and particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10).”⁴⁶ Based on this provision, transportation conformity does not apply in nonattainment or maintenance areas for SO₂. Therefore, a transportation conformity SIP is not required for SO₂ nonattainment and maintenance areas and is not necessary for an SO₂ nonattainment area to be redesignated to attainment, and the EPA’s transportation conformity rules do not apply to SO₂ for the Beaver County NAA.

5. Section 179 Requirements

Section 179(a) of the CAA addresses potential sanctions for the failure of a State to submit certain required SIP elements by statutory deadlines. The EPA is not aware of any missing or incomplete Beaver County planning elements subject to section 179(a) of the CAA.

b. Subpart 5 Requirements

⁴⁵ 58 FR 3776, January 11, 1993.

⁴⁶ This provision has been revised to include particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM2.5). See 40 CFR 93.102(b)(1).

The subpart 5 requirements, which consist of sections 191 and 192 of the CAA, are specific provisions applicable to SO₂, NO₂ or lead nonattainment areas. Section 191 of the CAA requires states with areas designated nonattainment for SO₂, NO₂ or lead after November 15, 1990, to submit within 18 months of the designation an implementation plan meeting the requirements of part D.⁴⁷ The substance of the required plans is established by section 172(c). Section 192 sets forth attainment dates for nonattainment areas under section 191.

For SO₂, CAA section 192(a) requires that attainment plans provide for attainment of the primary Standard as expeditiously as possible, but no later than five years from the date of the nonattainment designation. The EPA designated the Beaver County NAA as nonattainment on August 5, 2013, with an attainment date of October 4, 2018. However, because the EPA is reviewing a redesignation request under CAA section 107(d)(3)(E), rather than a determination of attainment under CAA section 179(c), the determination of whether the Area attained by the attainment date set forth in section 192 is not applicable to this action proposing approval of Pennsylvania's redesignation request.

Based on the above, the EPA is proposing to find that Pennsylvania has satisfied the applicable requirements for the redesignation of the Beaver County NAA under section 110 and part D of title I of the CAA.

III. Proposed Action

The EPA's review of this material indicates that the Beaver County NAA has met the criteria necessary under CAA section 107(d)(3)(E) for the EPA to redesignate the Beaver County NAA from nonattainment to attainment for the 2010 SO₂ NAAQS. Accordingly, the EPA is proposing to approve Pennsylvania's redesignation request for the Beaver County NAA, which was submitted on August 12, 2024. Final approval of Pennsylvania's redesignation request would change the legal designation of the portion of Beaver County designated nonattainment at

⁴⁷ Pennsylvania submitted this attainment plan on September 29, 2017, and EPA finalized approval of this SIP revision on October 1, 2019. Additional background on this process is provided in section I.B. "*Relevant Historical SIP Actions*," in this document.

40 CFR 81.339 to attainment for the 2010 1-hour SO₂ NAAQS. Essential to the potential redesignation, the EPA is also proposing to approve Pennsylvania's maintenance plan, which is designed to ensure that the potentially redesignated Beaver County NAA will continue to maintain the SO₂ NAAQS for ten years following potential redesignation. The EPA is soliciting public comments on the issues discussed in this document. These comments will be considered before taking final action.

IV. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Clean Air Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993);
- Is not subject to Executive Order 14192 (90 FR 9065, February 6, 2025) because SIP actions are exempt from review under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it approves

a state program;

- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act.

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian Tribe has demonstrated that a Tribe has jurisdiction. In those areas of Indian country, the rule does not have Tribal implications and will not impose substantial direct costs on Tribal governments or preempt Tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements, Sulfur oxides.

40 CFR Part 81

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

Amy Van Blarcom-Lackey,
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Region III.