

**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 52**

[EPA-HQ-OAR-2011-0081; FRL-9291-2]

RIN 2060-AQ69

**Response to Petition From New Jersey Regarding SO<sub>2</sub> Emissions From the Portland Generating Station****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Proposed rule.

**SUMMARY:** In this action, EPA proposes to make a finding that the coal-fired Portland Generating Station (Portland Plant) in Upper Mount Bethel Township, Northampton County, Pennsylvania, is emitting air pollutants in violation of the interstate transport provisions of the Clean Air Act (CAA or Act). Specifically, EPA is proposing to find that emissions of sulfur dioxide (SO<sub>2</sub>) from the Portland Plant significantly contribute to nonattainment and interfere with maintenance of the 1-hour SO<sub>2</sub> national ambient air quality standard (NAAQS) in New Jersey. This finding is proposed in response to a petition submitted by the State of New Jersey Department of Environmental Protection (NJDEP) on September 17, 2010. In this action, EPA is also proposing emission limitations and compliance schedules to ensure that the Portland Plant will no longer significantly contribute to nonattainment, and no longer interfere with maintenance of the 1-hour SO<sub>2</sub> NAAQS, thereby permitting continued operation of the Portland Plant beyond the 3-month limit established by the CAA for sources subject to such a finding.

**DATES:** *Comments.* Comments must be received on or before May 27, 2011.

*Public Hearing:* A public hearing will be held on April 27, 2011, in the Pequest Trout Hatchery and Natural Resources Education Center located in Oxford, Warren County, New Jersey 07863. Please refer to **SUPPLEMENTARY INFORMATION** for additional information on the comment period and the public hearing.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2011-0081 by one of the following methods:

- <http://www.regulations.gov>. Follow the online instructions for submitting comments. Attention Docket ID No. EPA-HQ-OAR-2011-0081.

- *E-mail:* [a-and-r-docket@epa.gov](mailto:a-and-r-docket@epa.gov). Attention Docket ID No. EPA-HQ-OAR-2011-0081.

- *Fax:* (202) 566-9744. Attention Docket ID No. EPA-HQ-OAR-2011-0081.

- *Mail:* EPA Docket Center, EPA West (Air Docket), Attention Docket ID No. EPA-HQ-OAR-2011-0081, U.S. Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Avenue, NW., Washington, DC 20460. Please include a total of 2 copies. *Hand Delivery:* U.S. Environmental Protection Agency, EPA West (Air Docket), 1301 Constitution Avenue, Northwest, Room 3334, Washington, DC 20004, Attention Docket ID No. EPA-HQ-OAR-2011-0081. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

*Instructions.* Direct your comments to Docket ID No. EPA-HQ-OAR-2011-0081. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through <http://www.regulations.gov> or e-mail. The <http://www.regulations.gov> Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through <http://www.regulations.gov>, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, avoid any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket, visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

*Docket.* All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available, e.g., CBI or other information

whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

**FOR FURTHER INFORMATION CONTACT:** Mr. Todd Hawes (919-541-5591), [hawes.todd@epa.gov](mailto:hawes.todd@epa.gov), or Ms. Gobeail McKinley (919-541-5246), [mckinley.gobeail@epa.gov](mailto:mckinley.gobeail@epa.gov), Air Quality Policy Division, Office of Air Quality Planning and Standards (C539-04), Environmental Protection Agency, Research Triangle Park, NC 27711.

**SUPPLEMENTARY INFORMATION:****I. General Information**

*A. Where can I get a copy of this document and other related information?*

In addition to being available in the docket, an electronic copy of this proposal will also be available on the World Wide Web. Following signature by the EPA Administrator, a copy of this action will be posted on EPA's Web site <http://www.epa.gov/ttn/oarpg/new.html>.

*B. What should I consider as I prepare my comments for EPA?*

1. *Submitting CBI.* Do not submit this information to EPA through <http://www.regulations.gov> or e-mail. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. Send or deliver information identified as CBI only to the following address: Roberto Morales, OAQPS Document Control Officer (C404-02), U.S. EPA, Research Triangle

Park, NC 27711, Attention Docket ID No. EPA-HQ-OAR-2011-0081.

2. *Tips for preparing your comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

### *C. How can I find information about the public hearing?*

The EPA will hold a public hearing on this proposal on April 27, 2011. The hearing will be held at the following location: Pequest Trout Hatchery and Natural Resources Education Center located on 605 Pequest Road in Oxford, New Jersey 07863. The public hearing will begin at 12 noon and continue until 8 p.m., or later if necessary depending on the number of speakers. The EPA will make every effort to accommodate all speakers that arrive and register before 8 p.m. A dinner break is scheduled from 4 p.m. until 5 p.m. during the hearing. Oral testimony will be limited to 5 minutes per commenter. The EPA encourages commenters to provide written versions of their oral testimonies either electronically or in paper copy. Verbatim transcripts and written statements will be included in the rulemaking docket. If you would like to present oral testimony at the hearing, please notify Ms. Pam S. Long, Air Quality Policy Division (C504-03), U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541-0641, [long.pam@epa.gov](mailto:long.pam@epa.gov). Persons interested in presenting oral testimony should notify Ms. Long at least 2 days in advance of the public hearing. Commenters should notify Ms. Long if they will need specific equipment, or if

there are other special needs related to providing comments at the public hearing. The EPA will provide equipment for commenters to show overhead slides or make computerized slide presentations if we receive special requests in advance. The EPA encourages commenters to provide EPA with a copy of their oral testimony electronically (via e-mail or CD) or in hard copy form. For updates and additional information on the public hearing, please check EPA's Web site for this rulemaking, <http://www.epa.gov/ttn/oarpg/new.html>. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning the proposed rule. The EPA may ask clarifying questions during the oral presentations, but will not respond to the presentations or comments at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as any oral comments and supporting information presented at a public hearing.

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### **II. EPA's Proposed Decision on NJDEP's September 17, 2010 Section 126 Petition**

EPA is proposing to grant the request in NJDEP's September 17, 2010, section 126 petition for a finding that emissions from the Portland Plant significantly contribute to nonattainment or interfere with maintenance of the 1-hour SO<sub>2</sub> NAAQS in New Jersey. EPA's proposed finding is based on EPA's review of NJDEP's air quality modeling, EPA's independent assessment of the AERMOD<sup>1</sup> dispersion modeling, and

<sup>1</sup> AERMOD stands for the American Meteorological Society/Environmental Protection Agency Regulatory Model.

other technical analysis conducted by EPA.

In granting this request, EPA is also proposing to allow the continued operation of the plant and to establish specific emission limitations and compliance schedules (including increments of progress) to bring the plant into compliance as expeditiously as practicable with the CAA prohibition of emissions that significantly contribute to nonattainment or interfere with maintenance. EPA is proposing to require that the Portland Plant reduce its SO<sub>2</sub> emissions to a limit no greater than 1,105 lbs/hour for unit 1 and 1,691 lbs/hour for unit 2. EPA proposes that the Portland Plant achieve and maintain these emission limitations by no later than 3 years after the effective date of the final rulemaking. EPA is taking comment on possible interim emission reductions such as proposing that the Portland Plant reduce its SO<sub>2</sub> emissions to a level no greater than 2,910 lbs/hr for unit 1, and 4,450 lbs/hr for unit 2, one year after the effective date of the final rulemaking, and other compliance activities to demonstrate appropriate increments of progress toward compliance. EPA has identified a number of existing, proven control technologies, as well as operational changes that can be employed to reduce emissions from these units. Nevertheless, EPA is also taking comment on an alternative compliance option should the Portland Plant decide to cease operation at the units subject to the emission limits, and is requesting comment on appropriate timeframes and measures for increments of progress to include for that alternative compliance option. EPA proposes that the emission limits and other measures established along with this finding are sufficient to remedy the Portland Plant's significant contribution to nonattainment and interference with maintenance in the impacted area in New Jersey.

### III. Background

#### A. Section 126 of the Clean Air Act

The statutory authority for this action is provided by the CAA, including but not necessarily limited to, sections 126 and 110(a)(2)(D)(i).

Section 126(b) of the CAA provides, among other things, that any State or political subdivision may petition the Administrator of EPA to find that any major source or group of stationary sources in upwind States emits or would emit any air pollutant in violation of the prohibition of section

110(a)(2)(D)(i),<sup>2</sup> which we describe later in detail. 42 U.S.C. 7426(b). Findings by the Administrator, pursuant to this section, that a source or group of sources emit air pollutants in violation of the section 110(a)(2)(D)(i) prohibition are commonly referred to as section 126 findings. Similarly, petitions submitted pursuant to this section are commonly referred to as section 126 petitions.

Section 126(c) explains the impact of a section 126 finding and establishes the conditions under which continued operation of a source subject to such a finding may be permitted. Specifically, section 126(c) provides that it would be a violation of section 126 of the Act and of the applicable State implementation plan: (1) For any major proposed new or modified source subject to a section 126 finding to be constructed or operate in violation of the prohibition of section 110(a)(2)(D)(i); or (2) for any major existing source for which such a finding has been made to operate more than three months after the date of the finding. 42 U.S.C. 7426(c). The statute, however, also gives the Administrator discretion to permit the continued operation of a source beyond three months if the source complies with emission limitations and compliance schedules provided by EPA to bring about compliance with the requirements contained in sections 110(a)(2)(D)(i) and 126 as expeditiously as practicable but no later than 3 years from the date of the finding. *Id.*

Section 110(a)(2)(D) of the CAA, often referred to as the "good neighbor" or "interstate transport" provision of the Act, requires States to prohibit certain emissions from in-State sources if such emissions impact the air quality in downwind States. Specifically, section 110(a)(2)(D) requires all States, within 3 years of promulgation of a new or revised NAAQS, to submit State implementation plans (SIPs) that: contain adequate provisions prohibiting any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant

deterioration of air quality or to protect visibility. (42 U.S.C. 7410(a)(2)(D)).

EPA has previously promulgated rules to quantify the specific SO<sub>2</sub> and nitrogen oxide (NO<sub>x</sub>) emission reductions required in certain eastern States by section 110(a)(2)(D)(i)(I) with respect to the NAAQS for ozone and fine particulate matter (PM<sub>2.5</sub>). See 62 FR 57356 (NO<sub>x</sub> SIP Call); 70 FR 25162 (CAIR).<sup>3</sup> EPA has also promulgated Federal rules to directly require such reductions. See 71 FR 25318 [finalizing Federal Implementation Plans for Clean Air Interstate Rule (CAIR)]; 65 FR 2674 (making section 126 findings for numerous large EGUs and finalizing a remedy for the affected sources). Most recently, EPA proposed the Transport Rule to address significant contribution to nonattainment and interference with maintenance with respect to the 1997 ozone and the 1997 and 2006 PM<sub>2.5</sub> NAAQS (75 FR 45210). Among other things, this proposed rule identifies SO<sub>2</sub> and NO<sub>x</sub> reductions that will be needed in certain States to address PM<sub>2.5</sub> nonattainment and maintenance problems in other States. See 75 FR 45129–21 (discussing the air quality problems and the specific NAAQS addressed by the proposal). SO<sub>2</sub> and NO<sub>x</sub> are identified as the pollutants of concern because of their impact on downwind States' ability to attain and maintain the PM<sub>2.5</sub> and ozone NAAQS. See 75 FR 45237, 45299. SO<sub>2</sub> and NO<sub>x</sub> are PM<sub>2.5</sub> precursors and NO<sub>x</sub> is also an ozone precursor.

The problems associated with high levels of SO<sub>2</sub> in the air, however, are separate and distinct from the problems associated with high levels of PM<sub>2.5</sub> and are addressed by a separate NAAQS, namely the 1-hour SO<sub>2</sub> NAAQS. 75 FR 35520 (Primary National Ambient Air Quality Standard for Sulfur Dioxide). The Transport Rule will not seek to identify or quantify reductions necessary to address significant contribution or interference with maintenance with respect to the 1-hour SO<sub>2</sub> NAAQS. In other words, the proposed Transport Rule does not address transport with respect to the 1-hour SO<sub>2</sub> NAAQS and thus does not address the concern raised in NJDEP's section 126 petition. Similarly, State 110(a)(2)(D)(i) SIP submissions relating to the ozone or PM<sub>2.5</sub> NAAQS would address only significant contribution to nonattainment and interference with maintenance of those NAAQS and thus would not address the concerns raised

<sup>2</sup> The text of section 126 codified in the United States Code cross references section 110(a)(2)(D)(ii) instead of section 110(a)(2)(D)(i). The courts have confirmed that this is a scrivener's error and the correct cross reference is to section 110(a)(2)(D)(i). See *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1040–44 (DC Cir. 2001).

<sup>3</sup> CAIR was subsequently found unlawful and remanded to EPA without vacatur, and thus remains in place while EPA responds to the remand. See *North Carolina v. EPA*, 531 F.3d 896, modified on reh'g, 550 F.3d 1176 (DC Cir. 2006).

regarding significant contribution to nonattainment and interference with maintenance of the 1-hour SO<sub>2</sub> NAAQS.

In addition, it is worth noting that the plain language of the statute confirms that section 126 remedies can, and in some cases must, be promulgated prior to the due date for good neighbor SIPs. Not only does section 126 provide a very stringent deadline for EPA to respond to section 126 petitions, but section 110(a)(2)(D)(ii) also calls for remedies promulgated pursuant to section 126 to be included in the SIP submissions that are due 3 years after a NAAQS is promulgated or revised. Section 110(a)(2)(D)(ii) requires State SIPs to contain adequate provisions “insuring compliance with the applicable requirements of [CAA section 126]”. 42 U.S.C. 7410(a)(2)(D). Consistent with the requirement in CAA section 110(a)(1), the Commonwealth of Pennsylvania will be required to adopt and submit to the Administrator, by June 2013 (3 years after the promulgation of the 1-hour SO<sub>2</sub> NAAQS), a SIP that satisfies the requirements of 110(a)(2) including the interstate transport requirements of 110(a)(2)(D)(ii). In other words, the statute requires the State SIP submittal to include any emission limits promulgated by EPA pursuant to section 126. The fact that Congress required the SIP submittals due 3 years after promulgation or revision of a NAAQS to include any emission limits promulgated pursuant to section 126 is meaningful. If Congress had intended to limit EPA’s authority to act on section 126 petitions until after the deadline for States to submit 110(a)(2)(D)(i) SIPs, it could have done so. Instead, it provided a mechanism for section 126 remedies promulgated prior to the SIP submission deadline to be incorporated into the State SIPs. EPA is bound by the language of the CAA. Since the statute establishes firm deadlines for action on section 126 petitions, does not provide an exception for petitions submitted prior to the good neighbor SIP submission deadline, and provides a mechanism for incorporating reductions required in response to section 126 petitions into the State SIPs, EPA believes it does not have discretion to delay action on a section 126 petition just because the State SIP submission deadline has not yet passed. EPA requests comment on this interpretation and all interpretations of section 126 in this section.

EPA has received one prior petition, in 1979, asking for a section 126 finding with respect to a single source. In this petition, the Air Pollution Control District of Jefferson County, Kentucky,

requested that EPA find, pursuant to the version of section 110(a)(2)(E)(I) of the CAA in effect at that time, that emissions from the Gallagher Power Station in southern Indiana were preventing attainment and maintenance with respect to the 1971 3-hour, 24-hour, and annual SO<sub>2</sub> NAAQS.<sup>4</sup> 47 FR 6624 (1982). The petition also sought a reduction of SO<sub>2</sub> emissions from the plant. EPA denied that petition basing its decision, in part, on a modeling analysis concluding that the Gallagher Power Station’s modeled allowable emissions were substantially below amounts that would prevent attainment or maintenance of the NAAQS. In this proposal, EPA is also using modeling analyses to decide whether to make a section 126 finding or deny the petition. EPA’s decision on the 1979 petition was upheld by the U.S. Court of Appeals for the Sixth Circuit.<sup>5</sup>

#### *B. Summary of Section 126 Petitions Submitted by NJDEP*

##### *1. NJDEP’s May 13, 2010 Petition*

On May 13, 2010, EPA received from the NJDEP a section 126 petition requesting that EPA make a finding that the Portland Plant is emitting air pollutants in violation of the interstate transport provisions of the CAA. The petition alleges that emissions from the Portland Plant significantly contribute to nonattainment and/or interfere with maintenance of the 2006 24-hour PM<sub>2.5</sub> NAAQS and the 1971 3-hour and 24-hour SO<sub>2</sub> NAAQS in New Jersey. That petition is still under consideration and this action does not address the petition submitted on May 13, 2010.

##### *2. NJDEP’s September 17, 2010 Petition*

On September 17, 2010, EPA received another section 126 petition from NJDEP requesting that EPA make a finding under section 126(b) of the CAA that the Portland Plant is emitting air pollutants in violation of the interstate transport provisions of the CAA with respect to the 1-hour SO<sub>2</sub> NAAQS promulgated on June 2, 2010 (75 FR 35520). NJDEP stated that this petition provided additional documentation to supplement the section 126 petition from May 13, 2010.

<sup>4</sup> Section 110(a)(2)(E)(i)(I) of the CAA was superseded by 110(a)(2)(D)(i)(I) in the 1990 CAA amendments, in part to strengthen the prohibitions of interstate transport of emissions (64 FR 28262). The relevant wording under 110(a)(2)(E)(i)(I) was changed from “prevent attainment or maintenance by any other State” to “contribute significantly to nonattainment in, or interfere with maintenance by, any other State” under 110(a)(2)(D)(i)(I).

<sup>5</sup> See *Air Pollution Control District of Jefferson County, Kentucky v. EPA*, 739 F.2d 1071, (U.S. Court of Appeals, Sixth Circuit).

NJDEP also submitted a modeling and trajectory analysis to support the assertions in the September 17, 2010, petition. This analysis, it asserts, demonstrates that the Portland Plant causes violations of the 1-hour SO<sub>2</sub> NAAQS in Warren, Sussex, Morris, and Hunterdon Counties in New Jersey. NJDEP’s petition asks EPA to directly regulate the Portland Plant and requests the installation of appropriate air pollution controls, such as a scrubber, which it asserts would provide the necessary abatement. As an alternative to address the alleged violations, NJDEP’s petition suggests that the EPA could impose emission limits no less stringent than New Jersey’s Reasonably Available Control Technology (RACT) rules set forth at N.J.A.C. 7:27–1.1 *et seq.*

#### *C. EPA Extensions for Acting on the Section 126 Petition*

Any action taken by EPA under section 126 to make a finding or deny a petition is subject to the procedural requirements of CAA section 307(d). See 42 U.S.C. 7607(d)(1)(N). One of these requirements is notice-and-comment rulemaking. See 42 U.S.C. 7607(d)(3). In light of the time required for notice-and-comment rulemaking, CAA section 307(d)(10) provides for a time extension, under certain circumstances, for rulemaking subject to section 307(d).

In accordance with section 307(d)(10), EPA determined that the 60-day period afforded by section 126(b) for responding to the petition from the NJDEP was not sufficient to allow the public and EPA adequate opportunity to carry out the purposes of section 307(d). Specifically, EPA determined that the 60-day period was insufficient for EPA to develop an adequate proposal and allow time for notice-and-comment on whether the Portland Plant contributes significantly to nonattainment and/or maintenance problems in New Jersey. Based on these determinations, on November 16, 2010, EPA published a notice extending the deadline for action on the September 17, 2010, petition until May 16, 2011 (75 FR 69889). In this notice, EPA also explained its conclusion that the September 17, 2010, petition submitted by NJDEP is a new petition and not a supplement to the May 13, 2010, petition.

#### *D. Background on the Portland Plant and Its Surrounding Area*

The Portland Plant is a 427 megawatt (MW) coal-fired plant located in Upper Mount Bethel Township in Northampton County, Pennsylvania. It is within 500 feet of Knowlton Township in Warren County, New

Jersey, directly across the Delaware River. There are two main units, unit 1 with a capacity of 160 MW and unit 2 with a capacity of 240 MW. There is an auxiliary boiler which burns oil and 3 small turbines (units 3, 4, and 5) which all burn oil and natural gas, and have very small emissions.

Units 1, 2, and 5 utilize continuous emissions monitoring system (CEMS). In 2009, SO<sub>2</sub> emissions combined from units 1 and 2 at the plant were 30,465 tons and emissions from unit 5 were 0.3 tons which are reported from CEMS data. Between 2007 and 2010, units 1 and 2 operated, on average, approximately 7,000 hours per year. Also, between 2007 and 2010, unit 5 operated for less than 100 hours per year.<sup>6</sup>

The auxiliary boiler, unit 3, and unit 4 do not have CEMS, but emissions data are available from the 2008 National Emissions Inventory (NEI), Version 1. The auxiliary boiler, unit 3, and unit 4 SO<sub>2</sub> annual emissions reported in the 2008 NEI were 0.01, 0.02, and 0.03 tons, respectively.

Other sources of SO<sub>2</sub> emissions in the area include the Martins Creek facility which is located approximately 10 km to the south of the Portland Plant. There are two units at Martins Creek, units 3 and 4, which averaged about 1,039 and 584 hours of operation respectively. Those units each have a capacity of 850 MW and can burn either oil or natural gas. The facility reported approximately 1,100 tons of SO<sub>2</sub> emissions in 2009. There are also three cement plants (Hercules, Keystone, and ESSROC) and several minor emitting units in Pennsylvania located at distances generally greater than 30 km away to the south and west of the Portland Plant. In 2009, the Pennsylvania Department of Environmental Protection emission inventory database (PADEP eFACTS) reported 1,862 tons for Hercules, 685 tons for Keystone, and 799 tons for ESSROC of SO<sub>2</sub> emissions respectively, all of which are relatively low compared to the SO<sub>2</sub> emissions from the Portland Plant.

The Delaware River transects the region, with higher terrain on either side of the river valley where the Portland Plant is located. There is elevated terrain, as high as or greater than Portland's highest stacks, which rises 400 to 500 foot (ft) above the valley floor near the Portland Plant. The 1500 ft high Kittatinny Ridge is located within 7 kilometer (km) to the north and

northwest of the Portland Plant. Further south, near the Martins Creek Power Plant, major terrain features such as Scotts Mountain to the east of the Delaware River rise up to 1000 ft above the valley floor.

#### *E. Sulfur Dioxide and Public Health*

Current scientific evidence links health effects with short-term exposure to SO<sub>2</sub> ranging from 5 minutes to 24 hours. Adverse respiratory health effects include narrowing of the airways which can cause difficulty breathing (bronchoconstriction) and increased asthma symptoms. These effects are particularly important for asthmatics during periods of faster or deeper breathing (e.g., while exercising or playing). Studies show an association between short-term SO<sub>2</sub> exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses particularly in at-risk populations including children, the elderly and asthmatics. EPA's NAAQS for 1-hour SO<sub>2</sub> is designed to protect against exposure to the entire group of sulfur oxides (SO<sub>x</sub>). SO<sub>2</sub> is the component of greatest concern and is used to represent the larger group of gaseous sulfur oxides. Other gaseous sulfur oxides (e.g., SO<sub>3</sub>) are found in the atmosphere at concentrations much lower than SO<sub>2</sub>. Emissions that lead to high concentrations of SO<sub>2</sub> generally also lead to the formation of other SO<sub>x</sub>. Control measures that reduce SO<sub>2</sub> can generally be expected to reduce people's exposure to all gaseous SO<sub>x</sub>. Reducing SO<sub>2</sub> emissions is expected to have the important cobenefit of reducing the formation of fine sulfate particles that pose significant public health threats. SO<sub>x</sub> can react with other compounds in the atmosphere to form small particles (e.g., PM<sub>2.5</sub>). These small 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.

#### **IV. EPA's Methodology for Making the Proposed Section 126 Finding for the Portland Plant**

This section explains the analysis conducted by EPA to determine whether it would be appropriate to find, in response to the petition submitted by NJDEP, that the Portland Plant emits or would emit any air pollutant in violation of the prohibition of section 110(a)(2)(D)(i)(I) with respect to the 1-hour SO<sub>2</sub> NAAQS.

#### *A. EPA's Approach for Determining Whether To Make a Section 126 Finding for the Portland Plant*

##### 1. CAA Section 126(b)

Section 126 of the CAA provides a mechanism for States and other political subdivisions to seek abatement of pollution in other States that may be affecting their air quality; however, it does not identify specific criteria or a specific methodology for the Administrator to apply when deciding whether to make a section 126 finding or deny a petition. Therefore, EPA has discretion to identify relevant criteria and develop a reasonable methodology for determining whether a section 126 finding should be made. See, e.g., *Chevron, U.S.A., Inc. v. NRDC*, 467 U.S. 837, 842–43 (1984); *Smiley v. Citibank*, 517 U.S. 735, 744–45 (1996).

As an initial matter, EPA looks to see whether a petition identifies or establishes a technical basis for the requested section 126 finding. EPA first evaluates the technical analysis in the petition to see if that analysis, standing alone, is sufficient to support a section 126 finding. EPA focuses on the analysis in the petition because the statute does not require EPA to conduct an independent technical analysis to evaluate claims made in section 126 petitions. The petitioner thus bears the burden of establishing, as an initial matter, a technical basis for the specific finding requested. EPA has no obligation to prepare an analysis to supplement a petition that fails, on its face, to include an initial technical demonstration. Such a petition, or a petition that fails to identify the specific finding requested, could be found insufficient. Nonetheless, the Agency may decide to conduct independent technical analyses when such analyses are helpful in evaluating the basis for a potential section 126 finding or developing a remedy if a finding is made. As explained later, given our view that it is necessary to make some technical adjustments to the NJDEP modeling, we determined that it was appropriate to conduct independent technical analysis to determine an appropriate remedy. Such analysis, however, is not required by the statute and may not be necessary or appropriate in other circumstances.

In this section, EPA explains the methodology used to evaluate the technical analysis presented in NJDEP's petition and to determine whether it would be appropriate to make the section 126 finding requested. This methodology was developed to address the specific allegations in the NJDEP petition and does not speak to how EPA

<sup>6</sup> Facility unit data is available at the EPA Clean Air Markets Division (CAMD) database available at <http://camdataandmaps.epa.gov/gdm/index.cfm?fuseaction=emissions.wizard>.

might evaluate petitions that raise different interstate transport issues, such as collective contributions from multiple sources, contributions to nonattainment areas in multiple States, or contributions to different NAAQS. The methodology used to assess the remedy is discussed in section VII.

## 2. EPA's Approach To Evaluating NJDEP's Section 126 Petition

Emissions from upwind States can, alone or in combination with local emissions, result in air quality levels that exceed the NAAQS and jeopardize the health of residents in downwind communities. Each State is required by section 110(a)(2)(D)(i)(I) to prohibit emissions from activities within that individual State that would significantly contribute to downwind nonattainment or interfere with downwind States' maintenance of the NAAQS.

Section 110(a) of the CAA assigns to each State both the primary responsibility for attaining and maintaining the NAAQS within such State, and prohibiting emissions activities within the State that will significantly contribute to nonattainment or interfere with maintenance in a downwind area. States fulfill these CAA obligations through the SIP process described in section 110(a) of the CAA. States are required to submit SIPs to prohibit those emissions that significantly contribute to nonattainment or interfere with maintenance in downwind States within 3 years of promulgation of a new or revised NAAQS. See 42 U.S.C. 7410(a), 7410(a)(2)(D). The prohibition on these emissions is intended to assist the downwind State as it designs strategies for ensuring that the NAAQS are attained and maintained.

The NJDEP petition asserts and presents modeling that demonstrates that emissions from one plant (the Portland Plant) by itself is sufficient to cause downwind SO<sub>2</sub> NAAQS violations in New Jersey. The approach described later was developed by EPA to analyze these specific claims in these particular circumstances and may not be appropriate for evaluating other claims or those arising in different circumstances for other actions.

In this case, EPA is proposing to define the Portland Plant's significant contribution to nonattainment and interference with maintenance as those emissions that must be eliminated to bring the downwind receptors in New Jersey affected by the Portland Plant into modeled attainment in the analysis year. While this approach would not be appropriate in every circumstance, EPA believes it is appropriate where, as here,

the source's emissions are sufficient on their own to cause downwind NAAQS violations and background levels of the relevant pollutant are relatively low. EPA therefore developed a methodology to identify the reductions necessary to bring the downwind receptors into attainment.

EPA's methodology uses dispersion modeling to assess the impact of emissions from the Portland Plant on SO<sub>2</sub> concentrations at downwind receptors. EPA modeled the emissions from the Portland Plant and determined that the modeled concentrations from the Portland Plant, when combined with the relatively low background concentrations [in the manner described in section VII and in greater detail in the Modeling Technical Support Document (TSD)], cause violations of the 1-hour SO<sub>2</sub> NAAQS in New Jersey. We have determined it is appropriate to use modeling in this case to determine whether downwind air quality will attain the 1-hour SO<sub>2</sub> NAAQS in the analysis year.<sup>7</sup>

In the modeling analysis, thousands of receptors are placed in New Jersey to determine the area of maximum concentration from the Portland Plant emissions. A design value concentration is calculated for each receptor for comparison to the NAAQS. The design value concentration is equal to the 99th percentile (4th-highest) daily maximum 1-hour SO<sub>2</sub> concentration. All receptors with modeled design value concentrations that are greater than the NAAQS (196 µg/m<sup>3</sup>) are determined to be nonattainment receptors.

To quantify the emissions that constitute the Portland Plant's significant contribution, we identify the level of emissions that need to be reduced to ensure that no modeled concentration within the affected area exceeds the level of the NAAQS (*i.e.*, the 99th percentile of the daily maximum 1-hour average of 196 µg/m<sup>3</sup>).

The first step of the "interfere with maintenance" analysis is to identify whether there are any maintenance receptors in the relevant area. In considering maintenance, we are examining the receptors in the analysis to determine if higher modeled concentrations may exist due to variability in meteorology, emissions,

<sup>7</sup> Historically, EPA has favored dispersion modeling to support SO<sub>2</sub> NAAQS compliance determinations for areas with sources that have the potential to cause an SO<sub>2</sub> NAAQS violation, and EPA explained that for an area to be designated as "attainment," dispersion modeling regarding such sources needs to show the absence of violations even if monitoring does not show a violation. This has been our general position throughout the history of implementation of the SO<sub>2</sub> NAAQS program. See 75 FR 35551.

and/or other factors. Nonattainment receptors are already modeled to be above the NAAQS and receptors with higher<sup>8</sup> concentrations attributed to variability in emissions or meteorology would be exceeding the NAAQS by an even greater amount. Therefore, nonattainment receptors are by definition also maintenance receptors. In addition to these nonattainment/maintenance receptors, we also examine receptors that are modeled to be attainment but due to variability in meteorology or emissions might be at risk for nonattainment. In that case, any identified maintenance receptors would not be nonattainment and would therefore be considered "maintenance only" receptors.

In this particular case, due to the high modeled concentrations from the Portland Plant emissions, all of the downwind modeled receptors in the modeled receptor grid in New Jersey are modeled to be nonattainment. In this application, it was not necessary to expand the modeling grid to identify additional nonattainment or "maintenance only" receptors because the modeling domain was centered on the receptors with the maximum impact from the Portland Plant. In a primary pollutant dispersion modeling application, emissions reductions from the contributing source lead to a linear reduction in downwind concentrations. Therefore, we can be certain that an emissions limit on the Portland Plant that eliminates modeled violations at the maximum concentration receptor will eliminate violations at all potential receptors. Because there are no "maintenance only" receptors in the area of concern, it was not necessary for us to consider the Portland Plant's impact on maintenance only receptors.

We next consider whether the Portland Plant should be required to make additional reductions, above and beyond those required to eliminate its significant contribution to nonattainment to ensure that it does not interfere with maintenance at the nonattainment/maintenance receptors. We identified an approach that we believe is appropriate for the specific circumstances presented here.

Among other things, we considered the nature of the modeling used to determine the appropriate remedy and the potential for SO<sub>2</sub> concentrations in New Jersey to be higher than those

<sup>8</sup> Variability of emissions and meteorology could also lead to lower concentrations; however, for purposes of identifying interference with maintenance receptors, we would only be concerned with concentrations that would be higher than those modeled.

modeled. Here are some of the relevant facts:

(1) There is only 1 year of site-specific meteorology available for this analysis, so we are not able to examine the impact of year-to-year variability of meteorology on downwind modeled concentrations.<sup>9</sup>

(2) The remedy modeling used allowable emissions from the Portland Plant. Since these are the highest emissions that are allowed to be emitted by the facility, higher concentrations could not be expected to occur in New Jersey due to the emissions from the Portland Plant.

(3) In the modeling analysis, we used a seasonal and hourly varying background concentration that represents the high end of the distribution (99th percentile) of hourly observed SO<sub>2</sub> concentrations in the area. As indicated in the trajectory analysis submitted by NJDEP, it is likely that direct SO<sub>2</sub> impacts from the Portland Plant contributed to high monitored concentrations at the monitor located in Chester, New Jersey (Chester monitor). Therefore, to avoid double counting of contributions from the Portland Plant through both monitored and modeled emissions, it would not be appropriate to consider higher background concentrations.

EPA believes that given the specific circumstances described previously, there is no indication that concentrations higher than those modeled from the Portland Plant would be likely to occur at the nonattainment/maintenance receptors or anywhere in New Jersey. It is therefore reasonable to conclude, under the circumstances, that any remedy that eliminates the significant contribution to nonattainment from the Portland Plant will also eliminate its interference with maintenance with respect to year-to-year variability in emissions and air quality.

As noted in the proposed Transport Rule, EPA believes that the maintenance concept has two components: Year-to-year variability in emissions and air quality, and continued maintenance of the air quality standard over time. Consistent with the approach in the Transport Rule, EPA examined both of these concepts in assessing “interfere with maintenance” for NJDEP’s section 126 petition regarding the Portland Plant. Year-to-year variability is discussed above. Year-to-year variability is appropriate to consider because data demonstrates that year-to-year variations in air quality that stem from differences in weather and emissions can determine whether or not the health-based standard will be achieved in a particular location in the analyzed year.

EPA separately considered whether further emissions reductions from the Portland Plant are necessary to ensure continued lack of interference with maintenance of the NAAQS over time, and believes that the answer is no. The proposed requirements of this rule will prevent the emissions of the Portland Plant from increasing over time relative to the modeled scenario. Also, EPA does not have evidence that background SO<sub>2</sub> emissions from other sources affecting the relevant New Jersey receptors will increase in the future, which—in combination with residual Portland Plant emissions—in theory might have raised the possibility of a future maintenance issue at those receptors.

In conclusion, we are proposing to find that compliance by the Portland Plant with the emission limits proposed in this action will bring it into compliance with the prohibition on emissions that significantly contribute to nonattainment of the 1-hour SO<sub>2</sub> NAAQS as well as with the prohibition on emissions that interfere with maintenance in a downwind area.

EPA requests comment on our approach to address interference with

maintenance with regard to this specific petition and whether the proposed emission limits are sufficient to eliminate the Portland Plant’s interference with maintenance of the 1-hour SO<sub>2</sub> NAAQS in New Jersey.

**V. Summary and Assessment of the Modeling and Other Data Relevant to EPA’s Finding**

*A. Summary of the Modeling Submitted by NJDEP To Support the Petition*

NJDEP submitted several technical analyses in support of its section 126 petition. Among the submitted materials were a summary of the NJDEP dispersion modeling results, a modeling analysis for the 1-hour SO<sub>2</sub> NAAQS using AERMOD, a modeling analysis for the 1-hour SO<sub>2</sub> NAAQS using CALPUFF,<sup>10</sup> and a trajectory analysis of high SO<sub>2</sub> episodes at a SO<sub>2</sub> monitor in Chester, New Jersey. In addition, the petition references a CALPUFF model validation study, which was submitted by NJDEP along with the previous (May 13, 2010) section 126 petition.

NJDEP submitted two different modeling analyses of the SO<sub>2</sub> impacts from the Portland Plant on New Jersey. The first analysis (Exhibit 2 to the NJDEP petition) used the AERMOD dispersion model and the second analysis (Exhibit 3 to the NJDEP petition) used the CALPUFF dispersion model. Both models were run with both actual and allowable emissions rates and CALPUFF was also run with various meteorological input data. Each NJDEP model run showed modeled violations of the 1-hour SO<sub>2</sub> NAAQS (i.e., showed annual 99th percentile of daily maximum 1-hour SO<sub>2</sub> values at or above 196 µg/m<sup>3</sup>) in New Jersey.

Table V.A–1 summarizes the CALPUFF and AERMOD 1-hour SO<sub>2</sub> NAAQS (196 µg/m<sup>3</sup>, 99th percentile) modeling results submitted by NJDEP.

TABLE V.A–1—SUMMARY OF MODELING RESULTS SUBMITTED BY NJDEP

Model	Emissions	Meteorology	Maximum modeled concentration (µg/m <sup>3</sup> )	99th Percentile (4th high) modeled concentration (µg/m <sup>3</sup> ) <sup>11</sup>
AERMOD .....	Allowable .....	July 1993–June 1994 <sup>12</sup> .....	3,700	1,402
AERMOD .....	Estimated Actual .....	July 1993–June 1994 .....	1,713	467.3
CALPUFF .....	Allowable .....	2002 12km MM5 .....	15,273	3,455

<sup>9</sup>Due to constraints on data availability, our analysis is appropriate in this instance; however, nothing here is intended to suggest that, where sufficient data are available to examine year-to-year variability, this should not be a relevant factor.

<sup>10</sup>CALPUFF is a non-steady-state puff dispersion model that was originally developed for the California Air Resources Board.

<sup>11</sup>NJDEP did not add background concentrations to any of the modeled concentrations in the table.

<sup>12</sup>Meteorological data used in the AERMOD modeling was based on the only site-specific meteorological data available for the Portland Plant, from July 1993 through June 1994, which satisfies the recommendations in Section 8.3.1 of Appendix W regarding the length of record for meteorological data.

TABLE V.A-1—SUMMARY OF MODELING RESULTS SUBMITTED BY NJDEP—Continued

Model	Emissions	Meteorology	Maximum modeled concentration (µg/m <sup>3</sup> )	99th Percentile (4th high) modeled concentration (µg/m <sup>3</sup> ) <sup>11</sup>
CALPUFF .....	Actual .....	2002 12km MM5 .....	6,740	2,194
CALPUFF .....	Allowable .....	2003 4km MM5 .....	18,643	2,468

As can be seen in the table V.A-1, each of the modeling analyses submitted by NJDEP shows modeled violations of the 1-hour SO<sub>2</sub> NAAQS. The concentrations predicted by the

CALPUFF model tend to be higher than those predicted by the AERMOD model. In addition, the model runs based on allowable emissions logically show higher concentrations than those based

on actual emissions. The allowable emissions included in the NJDEP modeling are shown in Table V.A-2.

TABLE V.A-2

Portland Plant unit	Allowable SO <sub>2</sub> rate (lb/hr)	Maximum 3-hr permit limit (tons per 3 hours)
1 .....	5,820	8.73
2 .....	8,900	13.35

The petition also contained modeling of actual emissions for the 2002 MM5 (mesoscale meteorological model) based CALPUFF case and this modeling run showed large exceedances of the 1-hour SO<sub>2</sub> NAAQS. Actual emissions were also modeled with AERMOD for the 1993–1994 site-specific meteorology. As with the modeling based on allowable emissions, the AERMOD results with actual emissions were much lower than the CALPUFF results, but still showed significant exceedances of the 1-hour SO<sub>2</sub> NAAQS. The 2002 CALPUFF modeling with actual emissions was based on actual SO<sub>2</sub> emissions from CEMS data. The 1993–1994 actual emissions used with AERMOD were estimated based on monthly coal usage reports (CEMS data were not available for that period).

The modeling submitted by NJDEP indicates actual emissions from the Portland Plant alone cause air quality in New Jersey to exceed the 1-hour SO<sub>2</sub> NAAQS. The NJDEP modeling also indicates that the Portland Plant's allowable emissions (*i.e.*, the emissions the plant would emit if it were to emit at the level currently allowed) cause air quality in New Jersey to exceed the 1-hour SO<sub>2</sub> NAAQS. The NJDEP AERMOD predictions of the 4th high daily 1-hour maximum concentrations (99th percentile) based on allowable emissions show a maximum concentration in New Jersey of 1,402 µg/m<sup>3</sup> (located on a ridge at the Delaware Water Gap (in New Jersey) approximately 7 kilometers (km) from the Portland Plant stacks). The

AERMOD modeling submitted by NJDEP also demonstrates that actual emissions from the Portland Plant are causing NAAQS exceedances in New Jersey. In addition, the CALPUFF predictions of the 4th high daily maximum 1-hour concentrations (99th percentile) based on allowable emissions are as high as 3,455 µg/m<sup>3</sup>.

The results of the NJDEP modeling based on both allowable and actual emissions indicate that emissions reductions would be needed at the Portland Plant in order to eliminate Portland's significant contribution to nonattainment in New Jersey.

*B. EPA's Assessment of Modeling Submitted by NJDEP*

EPA evaluated several aspects of the NJDEP modeling to determine if the analyses followed EPA regulations and guidance for dispersion modeling. Among the key specific issues evaluated were the choice of model(s), modeling of actual vs. allowable emissions, and the application of site-specific meteorological data that were used as inputs to the AERMOD model. Additional technical details regarding the NJDEP modeling were also examined, as documented in the Modeling TSD.

1. NJDEP's Model Selection

EPA first evaluated which model is most appropriate for use in these particular circumstances. As noted previously, NJDEP submitted both AERMOD and CALPUFF model results. Given the significant differences in the

magnitude of predicted impacts associated with the Portland Plant emissions based on the use of the AERMOD model versus use of the CALPUFF model, identifying the most appropriate model for use in these circumstances was a key aspect of EPA's assessment. Section 4.2.2(b) of the "Guideline on Air Quality Models," published as Appendix W to 40 CFR Part 51 (commonly referred to as "Appendix W") States that AERMOD is "the recommended model" "[f]or a wide range of regulatory applications in all types of terrain."<sup>13</sup> The modeling application under consideration in this section 126 petition is covered under this section of Appendix W since the transport distances of concern are less than 50 kilometers.

The NJDEP petition acknowledges that AERMOD is the preferred model for near-field applications such as this, but suggests the use of CALPUFF may be appropriate under the alternative model provisions in Section 3.2.2b of Appendix W. Section 3.2 of Appendix W lists three separate conditions under which an alternative model may be approved for use, as follows:

(1) If a demonstration can be made that the model produces concentration estimates equivalent to the estimates obtained using a preferred model;

<sup>13</sup> Section 4.2.2 identifies other models that are recommended for specific applications that do not apply for the Portland Plant, *e.g.*, the Buoyant Line and Point Source (BLP) dispersion model is recommended for cases where buoyant plume rise from line sources is important.



(2) If a statistical performance evaluation has been conducted using measured air quality data and the results of that evaluation indicate the alternative model performs better for the given application than a comparable model in Appendix A; or

(3) If the preferred model is less appropriate for the specific application, or there is no preferred model.

The NJDEP modeling documentation suggests that NJDEP's use of the CALPUFF model in support of this petition is based on condition (2) of Section 3.2.2b. NJDEP claims that CALPUFF was shown to have "performed better and produced predictions of greater accuracy than AERMOD,"<sup>14</sup> and therefore satisfies condition (2) under Section 3.2.2b of Appendix W. NJDEP also claims that the use of CALPUFF is more appropriate for the specific application due to the complex winds addressed in Section 7.2.8 of Appendix W<sup>15</sup> and is therefore justified under condition (3) of Section 3.2.2b.

For the reasons stated later, EPA determines that AERMOD is the appropriate modeling platform to use in these specific circumstances. This conclusion is based on the particular circumstances presented here and does not speak to whether it would be appropriate to use CALPUFF modeling in other situations.

#### a. CALPUFF Alternative Model Justification

EPA issued a memo on August 13, 2008, providing "Clarification of Regulatory Status of CALPUFF for Near-field Applications,"<sup>16</sup> (which applies to the application under review here). The key points emphasized in that memo are as follows:

1. The EPA-preferred model for near-field regulatory applications (less than 50 kilometers) for simple and complex terrain is AERMOD. The AERMOD model should be used for all near-field regulatory applications, unless an adequate determination is made that AERMOD is not appropriate for that application or is clearly less appropriate than an alternative model.

2. CALPUFF is not the EPA-preferred model for near-field applications, but may be considered as an alternative

model on a case-by-case basis for near-field applications involving "complex winds," subject to approval by the reviewing authority. The approval of CALPUFF for near-field regulatory applications must be based on case-specific justification, including necessary documentation and an adequate determination that AERMOD is not appropriate or clearly less appropriate than CALPUFF.

The impacts from a source such as the Portland Plant (tall stacks with nearby terrain features) are likely to occur with "line-of-sight" impacts of the elevated plumes on nearby terrain features for which straight-line, steady-state assumptions are valid.

The AERMOD model has been evaluated for similar situations of tall stacks in complex terrain settings for at least five separate data bases and consistently shown to perform better than competing models (Perry, *et al.*, 2005;<sup>17</sup> EPA, 2003<sup>18</sup>). Therefore, EPA does not agree with the argument that CALPUFF is more appropriate in this situation due to the existence of complex winds.

We thus turn to NJDEP's assertion that the use of CALPUFF as an alternative model can be justified under condition (2) of Section 3.2.2b, based on a demonstration that CALPUFF performs better than AERMOD. To evaluate this assertion, we evaluate whether there is evidence to support NJDEP's assertion that CALPUFF performs better than AERMOD. In the September 17, 2010, petition, NJDEP references a CALPUFF validation study that was submitted with the May 13, 2010, petition. EPA believes it is appropriate to consider this study because it was explicitly referenced in the September 17, 2010, petition, and a copy was provided with the prior petition.

We note again that the AERMOD model has undergone extensive peer review and model validation as the basis for its promulgation as the preferred model for a wide range of regulatory applications in all types of terrain. Therefore, we would not determine CALPUFF to be a more appropriate model in this case absent compelling evidence that CALPUFF is clearly superior to AERMOD for this application.

Model validation is a complex process that entails several technical challenges, including uncertainties regarding the accuracy and representativeness of key input data that could affect results, as well as a wide range of statistical methods and metrics that may be applied to quantify model performance. In some cases subtle changes to the evaluation methods can markedly affect the conclusions that might be drawn from such studies. For these reasons, the importance of establishing a consistent set of objective procedures to evaluate the performance of dispersion models for use in regulatory modeling applications and of comparing the relative performance of competing models has long been recognized. Section 3.2.1 of Appendix W references EPA's "Protocol for Determining the Best Performing Model"<sup>19</sup> document (EPA, 1992) that states it "is available to assist in developing a consistent approach when justifying the use of other-than-preferred modeling techniques recommended in the Guideline. The procedures in this protocol provide a general framework for objective decision-making on the acceptability of an alternative model for a given regulatory application.

Although the CALPUFF validation study submitted by NJDEP with the May 13, 2010, petition cites EPA's Protocol as one of the references for its model validation procedures, there were some key changes implemented in the NJDEP model evaluation study relative to the methods recommended and used by EPA in its evaluation of AERMOD model performance. EPA's evaluation of NJDEP's changes to the protocol leads us to believe that the NJDEP methods show relatively better model performance for CALPUFF compared to AERMOD, without any clear technical basis that would justify those changes. Further details on these changes and their impacts on the results of the validations study are provided in the Modeling TSD included in the docket for this rulemaking.

Furthermore, the Quantile-Quantile (Q-Q) plots<sup>20</sup> included in the NJDEP validation report provide a clear visual representation of model performance that is very relevant to the regulatory application of these models. These plots suggest that the performance of the

<sup>14</sup> See September 17, 2010 petition, Section IV, page 5.

<sup>15</sup> See May 13, 2010, petition, Section V, subsection B.

<sup>16</sup> "Clarification of Regulatory Status of CALPUFF for Near-field Applications," memo from Richard A. Wayland, dated August 13, 2008, available at <http://www.epa.gov/ttn/scram/clarification%20of%20regulatory%20status%20of%20calpuff.pdf>.

<sup>17</sup> Perry, S.G., A.J. Cimorelli, R.J. Paine, R.W. Brode, J.C. Weil, A. Venkatram, R.B. Wilson, R.F. Lee, and W.D. Peters, 2005. AERMOD: A Dispersion Model for Industrial Source Applications. Part II: Model Performance against 17 Field Study Databases. *J. Appl. Meteor.*, 44, pp. 694-708.

<sup>18</sup> EPA, 2003. AERMOD: Latest Features and Evaluation Results. EPA-454/R-03-003. U.S. Environmental Protection Agency, Research Triangle Park, NC, available at [http://www.epa.gov/scram001/7thconf/aermod/aermod\\_mep.pdf](http://www.epa.gov/scram001/7thconf/aermod/aermod_mep.pdf).

<sup>19</sup> "Protocol for Determining the Best Performing Model", EPA-454/R-92-025, December 1992. U.S. Environmental Protection Agency, Research Triangle Park, NC, available at <http://www.epa.gov/ttn/scram/guidance/guide/modlevel.zip>.

<sup>20</sup> Quantile-Quantile (Q-Q) plots compare modeled vs. monitored concentrations on the basis of independently ranked distributions of concentration, unpaired in time and space.

CALPUFF and AERMOD models on this database is in fact quite similar, but that AERMOD shows slightly better overall agreement with observations.

Another fundamental point in relation to NJDEP's overall justification for the use of CALPUFF in this petition is that results from the model validation study are not relevant to this application of CALPUFF due to fundamental differences in the meteorological processing used in the validation study compared to the modeling submitted in support of the petition. The CALMET modeling for the validation study made use of the site-specific meteorological data collected as part of the field study so that the documented CALPUFF model performance is largely dependent on the characterization of wind fields by CALMET that are informed by that site-specific data. In contrast, the application of CALPUFF to support the petition did not use any site-specific meteorological data but relied on three different sets of MM5 prognostic meteorological data to inform the 3-dimensional wind fields generated by CALMET. Performance of the CALPUFF model in this case would rely upon the ability of the CALMET meteorological model to adequately simulate the wind fields in the absence of such site-specific data, and there have not been any such demonstrations that would be relevant to this application.

We also note that the spatial distribution of 1-hour SO<sub>2</sub> impacts predicted by CALPUFF (in the petition application) is very different than the impacts predicted by AERMOD. The CALPUFF modeling shows extremely high 1-hour SO<sub>2</sub> concentrations very close to the Portland Plant (see Figures 1, 2, and 3 of Exhibit 3). The highest impacts based on the 2002 CALPUFF modeling with allowable emissions of 3,455 µg/m<sup>3</sup> (99th percentile of daily maximum 1-hour values) occurs about 100 meters from units 1 and 2 at an elevation of only 3 meters above the stack base in Pennsylvania. These results are physically unrealistic for buoyant plumes from tall stacks such as units 1 and 2 at the Portland Plant, raising additional concerns regarding the appropriateness of CALPUFF for this application.

Based on the discussion previously (and additional details contained in the Modeling TSD), we conclude that NJDEP has not adequately justified the use of CALPUFF in this application under either conditions (2) or (3) of Section 3.2.2b of Appendix W, and that

AERMOD is the most appropriate model for this application.<sup>21</sup>

## 2. Emissions and Source Characteristics

As noted previously, NJDEP submitted dispersion modeling results based on maximum allowable emissions as well as actual emissions. For the reasons explained later, EPA has determined that it is reasonable and appropriate to model allowable emissions when evaluating whether the source "emits or would emit" any air pollutant in violation of the prohibition of section 110(a)(2)(D)(i) under a section 126 petition. EPA interprets the term "emits or would emit" as a reference to the source's current and potential future emissions. A determination of whether the source "emits" pollutants in violation of the prohibition of section 110(a)(2)(D)(i) could be based on modeling of actual emissions. However, for the emissions the source "would emit" (*i.e.*, its potential future emissions), it is appropriate to consider the level at which the source could emit given the existing constraints on its emissions—that is, the source's allowable emissions.

For these same reasons, EPA believes it appropriate to model allowable emissions when determining the appropriate remedy to eliminate the source's significant contribution to nonattainment and interference with maintenance. In addition, as a practical matter, it would be difficult to determine an appropriate remedy under a section 126 petition based on actual emissions given the potential variability of actual emissions. Because the question posed is what additional limits must be placed on the source's emissions to eliminate its significant contribution to nonattainment and interference with maintenance, it is appropriate to consider what its emissions could be in the absence of such limits.

For these reasons, the rest of the review of NJDEP's modeling and the methodology of EPA's remedy modeling is limited to modeled results based on allowable emissions.

## 3. Meteorological Data

Aside from emissions data, meteorological data are the other key input to dispersion models. The NJDEP AERMOD modeling was based on 1 year

of site-specific meteorological data collected from a 100-meter instrumented tower and sonic detection and ranging (SODAR) system located about 2.2 kilometers west of the Portland Plant, for the period July 1993 through June 1994.

Section 8.3 of Appendix W provides guidance regarding meteorological data for use in dispersion modeling to demonstrate compliance with the NAAQS. A key issue related to meteorological data is the representativeness of the data for the particular application, including spatial and temporal representativeness. Based on a review of the data, we believe that the meteorological data from 1993–1994<sup>22</sup> meet the basic criteria for representativeness under Section 8.3.3 of Appendix W, and therefore can be considered as site-specific data for purposes of modeling impacts from the elevated stacks for the Portland Plant's units 1 and 2. The 1993–1994 data also meet the minimum criterion of at least 1 year of site-specific meteorological data recommended in Section 8.3.1.2(b) of Appendix W.

Although the Portland Plant meteorological data meet the basic criteria for representativeness, we note that there is a difference of about 100 meters between the base elevation for the meteorological tower and that of the stack base elevation. This raises concerns regarding how the meteorological data were input to the AERMOD model in the NJDEP modeling analysis, especially given that the stack heights for units 1 and 2 are about 122 meters and that plume heights of concern for units 1 and 2 are about 200 to 400 meters above stack base. The modeling submitted by NJDEP used the measurement heights above local ground for the meteorological data input to the model, effectively assuming that the measured profiles of wind, temperature and turbulence were "terrain-following."

We provide additional analysis of the impact on the tower height in the EPA remedy modeling section and in the Modeling TSD. We believe an adjustment to the meteorological data heights is warranted and EPA made these adjustments in the supplemental technical analysis it conducted to determine the appropriate remedy. These adjustments may play an

<sup>21</sup> EPA's discussion of the appropriate air quality model for near field applications focuses on primary emissions from a stationary source, such as the SO<sub>2</sub> emissions from the Portland Plant, at issue in NJDEP's petition. EPA is not suggesting that AERMOD is the appropriate model to simulate the effects of SO<sub>2</sub> and nitrogen oxide emissions on secondary pollutants formed in the atmosphere such as PM<sub>2.5</sub> and ozone. See 70 FR 68,234.

<sup>22</sup> The fact that the 1993–1994 meteorological data is nearly 20 years old is not relevant. The modeling was conducted with allowable emissions from the Portland Plant. The meteorology needs to be representative of typical meteorology that occurs in the area, regardless of time period. The allowable emissions do not vary, regardless of the meteorological data year.

important role in determining the remedy, as explained later in section VII. However, since the maximum design value concentration in the NJDEP AERMOD modeling analysis was nearly seven times the NAAQS, we do not expect these adjustments to change the overall conclusion that the Portland Plant emissions are likely to cause or contribute to violations of the 1-hour SO<sub>2</sub> NAAQS in New Jersey.

#### 4. Receptor/Terrain Data

Proper treatment of terrain information is important for this analysis given the potential influence of elevated and complex terrain on the modeling results. The NJDEP analysis was based on an initial grid of coarsely spaced receptor locations across a large domain covering all potentially important impact areas associated with emissions from the Portland Plant, followed by a much smaller grid of more closely spaced receptors focused on the area of expected worst-case impacts from the plant. The initial grid included spacing of 250 meters in areas of expected high impacts with receptors spaced at 1,000 meter intervals covering the gaps between the 250-meter grids. The initial coarse receptor grid included a total of 5,189 receptors. The fine grid used by NJDEP in determining the controlling impact from the Portland Plant for purposes of this petition included a total of 121 receptors in a 10 × 10 array spaced at 100-meter intervals covering a portion of the Kittatinny Ridge on the New Jersey side of the Delaware Water Gap.

#### 5. AERMOD Results

NJDEP's AERMOD modeling shows maximum design value impacts from the Portland Plant, based on allowable SO<sub>2</sub> emissions of 1402 µg/m<sup>3</sup> in New Jersey.<sup>23</sup> Since those concentrations are nearly seven times the 1-hour SO<sub>2</sub> NAAQS (196 µg/m<sup>3</sup>), and since NJDEP's AERMOD modeling also showed significant exceedances of the 1-hour SO<sub>2</sub> NAAQS in NJ based on an estimate of actual SO<sub>2</sub> emissions, we conclude that the NJDEP has clearly shown that SO<sub>2</sub> emissions from the Portland Plant cause violations of the 1-hour SO<sub>2</sub> NAAQS in New Jersey.

<sup>23</sup> The 1402 µg/m<sup>3</sup> impact from the Portland Plant did not include background concentrations. In most modeling applications, a representative background concentration would be added to the modeled concentrations from the source being modeled. But since the modeled concentration from the Portland Plant exceeded the NAAQS, accounting for background does not make a difference to the finding of violations. However, assumed background concentrations are needed for the remedy modeling which is discussed in section VII.

#### C. Summary of NJDEP's Trajectory Analysis and the Columbia Lake Monitor

As a supplement to its supporting modeling analyses, NJDEP analyzed winds using a trajectory model on days with the highest concentrations of SO<sub>2</sub> at a State operated ambient air monitoring site in Chester, Morris County, New Jersey. NJDEP used the HYSPLIT<sup>24</sup> model to calculate the movement of air during these two episodes, which covered three days (July 17–18, 2008 and December 7, 2009). The monitoring site in Chester is about 36 kilometers east-southeast of the Portland Plant. Concentrations of SO<sub>2</sub> on one of these days exceeded the 1-hour SO<sub>2</sub> NAAQS of 75 parts per billion (ppb). The trajectories generated by HYSPLIT show that air from the Portland Plant arrives in the vicinity of Chester about the time of the highest concentrations of SO<sub>2</sub>, shown by running the model in two modes: Forward from the facility and backward from the monitoring site. When these high concentrations occurred, a review of available emissions data showed that no other facility in the area had emissions more than 1/1,000th the emissions of the Portland Plant. NJDEP asserts that this trajectory analysis demonstrates that it is likely that the Portland Plant is largely responsible for these recorded high concentrations.

We also note that 1-hour SO<sub>2</sub> monitoring data have been collected since September 23, 2010, at the NJDEP Columbia Lake Wildlife Management Area (WMA) air quality monitor in Knowlton Township, Warren County, New Jersey, located about 2 km northeast of the Portland Plant, that show several exceedances of the 1-hour SO<sub>2</sub> NAAQS. The exceedances are shown during periods when prevailing winds (as measured at the Allentown International Airport) would disperse emissions from the Portland Plant in the general direction of the Columbia monitor.

#### VI. EPA's Decision on Whether To Make a Section 126 Finding or Deny the Petition

Based on the results of the NJDEP modeling described previously, EPA is proposing to grant the request in NJDEP's September 17, 2010, petition that EPA make a finding that emissions

<sup>24</sup> The Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) model computes simple air parcel trajectories using a three-dimensional grid. NJDEP used the HYSPLIT model using an ETA meteorological model with a 12 km horizontal grid size for the three-dimensional grid. See <http://ready.arl.noaa.gov/> for more details on the HYSPLIT.

from the Portland Plant significantly contribute to nonattainment or interfere with maintenance of the 1-hour SO<sub>2</sub> NAAQS.

As explained previously, NJDEP conducted dispersion modeling of the 1-hour SO<sub>2</sub> impacts using both the CALPUFF and AERMOD dispersion models. NJDEP also submitted a trajectory analysis of two particular episodes showing that elevated 1-hour SO<sub>2</sub> measurements at the Chester monitor in Morris County, New Jersey, were caused primarily by the Portland Plant. For the reasons explained previously and in the TSD in the docket for this rulemaking, EPA believes that the AERMOD analysis, submitted by NJDEP, provides a reasonable basis for analyzing whether or not emissions from the Portland Plant significantly contribute to nonattainment or interfere with maintenance in Warren, Sussex, Morris, and Hunterdon Counties in New Jersey. EPA has determined that the AERMOD modeling analysis provides a more appropriate technical basis for this petition than the modeling submitted based on the CALPUFF model, as explained in this notice and in more detail in the Modeling TSD. EPA's review of the NJDEP AERMOD analysis supports a finding that SO<sub>2</sub> emissions contribute significantly to nonattainment and interfere with maintenance of the 1-hour SO<sub>2</sub> NAAQS.

In addition, the trajectory analysis submitted from NJDEP and the preliminary air quality monitoring data collected from the Columbia monitor in New Jersey are consistent with our proposed finding of significant contribution to nonattainment and interference with maintenance of the 1-hour SO<sub>2</sub> NAAQS in New Jersey. A detailed review of the trajectory and monitoring data is included in the Trajectory Analysis of High Sulfur Dioxide Episodes TSD, and the Columbia Monitor in Warren County TSD contained in the docket for this proposal.

#### VII. EPA's Proposed Remedy

##### A. Quantification of the Emission Reductions Necessary To Eliminate the Portland Plant's Significant Contribution

EPA next conducted analyses to determine an appropriate remedy, as required by section 126.

In the section 126 petition, NJDEP suggested that appropriate remedies for the Portland Plant might be installation of scrubbers or meeting the RACT limit that New Jersey has set for SO<sub>2</sub> sources in its State. EPA's authority under section 126, however, is limited to

establishing emission limits and compliance schedules (including increments of progress) as needed to bring the Portland Plant into compliance as expeditiously as practicable. EPA cannot apply New Jersey law extraterritorially in Pennsylvania. In addition, we believe it is better policy for EPA, where only directed by statute to provide emission limits and compliance schedules, to allow the source the flexibility to achieve compliance in the way it determines is most reasonable and not to require the use of a specific technology.

Because section 126 allows continued operation of a major existing source subject to a section 126 finding, only if the source complies with emission limits and compliance schedules established by EPA to bring about compliance with the requirements in sections 110(a)(2)(D)(i) and 126 as expeditiously as practicable but in no case later than 3 years after the date of the finding. Thus, to determine the appropriate remedy, EPA must quantify the reductions necessary to eliminate the Portland Plant's significant contribution to nonattainment and interference with maintenance of the 1-hour SO<sub>2</sub> NAAQS in New Jersey.

We previously determined that due to the magnitude of the modeled violations in the NJDEP AERMOD modeling, the NJDEP modeling was sufficient to make a finding that the Portland Plant significantly contributes to nonattainment and interferes with maintenance in New Jersey. However, we noted some technical concerns with the NJDEP modeling which may affect the degree to which emissions need to be reduced to be able to meet the 1-hour SO<sub>2</sub> NAAQS in New Jersey. Therefore, EPA conducted an independent modeling assessment to help determine the necessary and appropriate emissions limit for Portland units 1 and 2.

1. Summary of EPA's Remedy Modeling for 1-Hour SO<sub>2</sub> NAAQS

EPA completed AERMOD modeling of the Portland Plant units 1, 2, and 5 using the 1993–1994 Portland Plant on-site meteorological data. EPA made several adjustments to the meteorological inputs (compared to the

NJDEP modeling) which it determined to be appropriate, as documented in the Modeling TSD. The maximum modeled design value impact from the Portland Plant in New Jersey based on EPA's modeling was 851.1 µg/m<sup>3</sup>. This included an impact from the Portland Plant of 811.8 µg/m<sup>3</sup> plus a background concentration of 39.3 µg/m<sup>3</sup>. The details of the modeling setup are summarized later and in greater detail in the Modeling TSD, which is in the docket for this proposal.

2. Model Selection

As discussed in Section V.B of this notice, Appendix W, Section 4.4.2(b) states that AERMOD is "the recommended model" "[f]or a wide range of regulatory applications in all types of terrain." The modeling application under consideration in this section 126 petition is generally covered under this section of Appendix W since the transport distances of concern are less than 50 kilometers. Therefore, EPA used AERMOD to determine the necessary remedy to eliminate the significant contribution to nonattainment and interference with maintenance in New Jersey.

3. Meteorological Data

Similar to the NJDEP AERMOD application, the EPA AERMOD modeling was based on 1 year of site-specific meteorological data collected from a 100-meter instrumented tower and SODAR located about 2.2 kilometers west of the Portland Plant, for the period July 1993 through June 1994. This is the same meteorological database used in the NJDEP AERMOD analysis.

As noted earlier, there is a difference of about 100 meters between the base elevation for the meteorological tower and the Portland Plant stack base elevation. This raises concerns regarding how the meteorological data should be input to the AERMOD model, especially given that the stack heights for units 1 and 2 are about 122 meters and that plume heights of concern for units 1 and 2 are about 300 to 400 meters above stack base. Given that the vertical variability of wind directions in the Portland Plant area documented in Exhibit 11 submitted with NJDEP's May

13, 2010, petition, a key component of the modeling analysis is the representativeness of the site-specific winds for transport and dispersion of the Portland Plant emissions. Therefore, to address the issues of representativeness for this application, EPA made several adjustments to the meteorological data for the EPA remedy modeling, compared to the data used by NJDEP.

Specifically, we made some adjustments to the measurement heights for the Portland Plant site-specific meteorological data. Given that the local terrain relief is about 100 meters, and assuming that local terrain effects on flow would extend up to about 3 times the height of the "obstacles", we conclude that we should apply a simple adjustment based on the 100-meter difference in base elevations to measurement heights at or above 300 meters. It is reasonable to assume that little or no adjustment should be applied to the lowest level winds due to the dominance of surface drag and other local influences. In addition to the height adjustment, several other changes were made to the meteorological data inputs (see the Modeling TSD for additional details).

4. Receptor/Terrain Data

As noted in section V, EPA examined the terrain and receptor processing from the NJDEP AERMOD analysis and concluded that NJDEP's processing of terrain data based on several 7.5-minute (30-meter) DEM terrain files and two 1-degree (90-meter) DEM files for use in AERMOD was appropriate. However, EPA's AERMOD modeling was based on the application of the AERMAP terrain processor using the National Elevation Dataset (NED) format (USGS, 2002), which reflects updates to the older DEM terrain data. Additional details can be found in the Modeling TSD.

5. Portland Plant Emissions and Source Characteristics

The EPA AERMOD analysis used allowable SO<sub>2</sub> emissions rates for Portland Plant units 1, 2, and 5 along with stack parameters shown in Table VII.A–1<sup>25</sup>:

TABLE VII.A–1

Source	Permitted emission rate (g/s)	Stack height (m)	Stack diameter (m)	Stack temperature (K)	Stack velocity (m/s)
Portland Plant Coal Unit 1 .....	733.3	121.92	2.84	403.0	43.3

<sup>25</sup> The allowable emissions and stack parameters in Table VII.A–1 for units 1 and 2 are the same as

used by NJDEP. The allowable emissions and stack parameters for unit 5 are based on a 2010 report

regarding the Portland Plant prepared for RRI Energy.

TABLE VII.A-1—Continued

Source	Permitted emission rate (g/s)	Stack height (m)	Stack diameter (m)	Stack temperature (K)	Stack velocity (m/s)
Portland Plant Coal Unit 2 .....	1,121.0	121.72	3.79	406.0	36.2
Portland Plant Turbine 5 .....	12.0	42.7	6.1	821.5	36.6

#### 6. Identification of Background Concentration To Use in the Remedy Analysis

The dispersion modeling submitted by NJDEP with the September 17, 2010, petition only included emissions from units 1 and 2 at the Portland Plant, and did not account for background concentrations of SO<sub>2</sub> from other sources. NJDEP did not offer any rationale regarding the exclusion of any contribution from background concentrations in the modeling.<sup>26</sup> Therefore, we address it here.

Section 8.2 of Appendix W provides guidance regarding the inclusion of background concentrations in dispersion modeling demonstrations of compliance with the NAAQS under PSD regulations. Appendix W defines “background air quality” as including “pollutant concentrations due to: (1) Natural sources; (2) nearby sources other than the one(s) currently under consideration; and (3) unidentified sources.” See Section 8.2.1a. EPA recently issued additional clarification regarding application of Appendix W guidance for the 1-hour NO<sub>2</sub> NAAQS,<sup>27</sup> indicating that portions of that guidance are equally applicable to the 1-hour SO<sub>2</sub> NAAQS. Two topics addressed in the March 1, 2011, guidance that are relevant here are the determination of background concentrations and combining modeled results with monitored background concentrations to determine cumulative impacts. While the guidance does not explicitly address dispersion modeling analyses in the context of a section 126 petition, we believe that the guidance provides an appropriate basis for the modeling conducted for the Portland Plant in support of this action.

A review of SO<sub>2</sub> emission sources within 50 km of the Portland Plant identified 10 sources, located mostly in

Pennsylvania southwest of the Portland Plant. One of the closest sources is the PPL Martins Creek Plant located about 14 km south-southwest of the Portland Plant. Martins Creek emitted around 1,000 tons per year of SO<sub>2</sub> in 2009. The next closest sources with SO<sub>2</sub> emissions of at least 2,000 tpy are two cement plants located in the Lehigh Valley about 25–30 km southwest of the Portland Plant. A more detailed discussion of nearby sources is provided in the Modeling TSD.

Of the SO<sub>2</sub> emission sources identified for possible inclusion in the modeling analysis, the Martins Creek Plant is the only source that is large enough and close enough to the Portland Plant to be considered for inclusion in the modeling analysis. However, the SO<sub>2</sub> emissions from the Martins Creek Plant are somewhat intermittent (as noted earlier, Martins Creek units 3 and 4 averaged about 1,039 and 584 hours of operation per year respectively). Even more fundamentally, the purpose of this modeling is to determine the impact of the Portland Plant itself on the downwind nonattainment areas. Any intermittent impacts from Martins Creek would be in addition to the impacts from the Portland Plant and the Portland Plant would have no obligation to remedy any violations associated solely with those emissions. This modeling uses actual monitored background levels of SO<sub>2</sub> such that it is reasonable to expect that the contribution of intermittent emissions from Martins Creek and other nearby sources is accounted for in EPA’s analysis. This approach is also consistent with the modeling analysis conducted by NJDEP. Further details regarding our assessment of nearby SO<sub>2</sub> sources are provided in the Modeling TSD.

There are currently three operating SO<sub>2</sub> monitors within 50 km of the Portland Plant, including the Chester monitor located about 36 km southeast of the Portland Plant in Morris County, New Jersey, the Easton monitor located about 27 km southeast in Northampton County, Pennsylvania, and the Columbia Lake WMA monitor located about 2 km northeast in Warren County, New Jersey. The Columbia monitor has

only been in operation since September 23, 2010, while the Chester and Easton(2) monitors have been in operation for several years.

Of the two long term SO<sub>2</sub> monitors, the ambient SO<sub>2</sub> data from the Chester, New Jersey, monitor provides the most representative background concentrations for this analysis since the distribution of sources impacting the Chester monitor is more similar to the distribution of sources around the Portland Plant. While the Easton(2), Pennsylvania, monitor is better situated to capture background concentrations upwind in relation to Portland Plant impacts in New Jersey, the Easton(2) monitor is close enough to the Lehigh Valley Cement Plants and other SO<sub>2</sub> sources that monitored SO<sub>2</sub> levels at Easton(2) would overestimate background concentrations applicable to this analysis.

The Columbia monitor data period is too short to serve as a source of monitored background concentrations for this application. Given its proximity to the Portland Plant, it is likely to capture ambient SO<sub>2</sub> impacts associated with the Portland Plant emissions under appropriate meteorological conditions. The location of the Columbia monitor also suggests that it may provide some useful insight into background concentration levels within the area by examining the concentration distribution during periods that are not affected by emissions from the Portland Plant.

Based on an assessment of the available SO<sub>2</sub> monitoring data, we determined that the Chester monitor is the most appropriate monitor to account for background SO<sub>2</sub> concentrations for the Portland Plant. Consistent with the March 1, 2011, guidance, we included monitored concentrations based on the 99th-percentile by season and hour-of-day from the Chester data for 2007 through 2009 (the most recent data available) to account for background concentrations. These background SO<sub>2</sub> concentrations by season and hour-of-day varied from 13 µg/m<sup>3</sup> to 60 µg/m<sup>3</sup>. Examination of hourly SO<sub>2</sub> concentrations for both the Chester monitor and the available data from the Columbia monitor indicates very low concentrations (less than 3 ppb) during

<sup>26</sup> Arguably, since the NJDEP modeling showed modeled violations of the NAAQS without background concentrations, it was not necessary for them to identify and/or add background concentrations to the results. However, in order to develop a remedy, it is necessary to consider background concentrations.

<sup>27</sup> “Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard.” Memorandum from Tyler Fox, OAQPS/AQAD, dated March 1, 2011.

the majority of the hours. However, we consider the background concentrations used in our analysis (13 µg/m<sup>3</sup> to 60 µg/m<sup>3</sup>) to be appropriate for this application given that no other emission sources were explicitly modeled. A more detailed discussion of our assessment and use of monitored SO<sub>2</sub> concentrations for this analysis are provided in the Modeling TSD.

7. Summary of EPA's Modeling Results

The results of the AERMOD model runs relied on by EPA to determine the appropriate remedy are described later and fully documented in the Modeling TSD which is included in the docket.

EPA's modeling based on the NJDEP coarse receptor grids resulted in a 1-hour SO<sub>2</sub> modeled design value of 841 µg/m<sup>3</sup> (about 321 ppb) at a receptor located about 3 kilometers north-northeast of the Portland Plant. Compared to the initial coarse grid analysis conducted by NJDEP, EPA's modeled design value is about 32 percent lower (compared to 1,236 µg/m<sup>3</sup>) and occurs at a different location within the modeling domain. While EPA's modeling showed peak impacts much lower than NJDEP's peak design value, we note that EPA's modeled peak design value of 841 µg/m<sup>3</sup> is about 90 percent higher than NJDEP's modeled impact at EPA's peak receptor location. These differences are likely due to the

adjustments in the processing of meteorological data input to the model. The adjustments to the measurement heights could result in significant differences in the transport direction for particular hours, as well as somewhat lower wind speeds. Both of these factors could shift the modeled impact area away from the higher terrain around the Delaware Water Gap toward a different part of the domain. The inclusion of observed σ<sub>w</sub> data (standard deviation of the vertical velocity fluctuations) from the SODAR in the EPA modeling could also account for this shift in the maximum impact area from the Portland Plant. If observed σ<sub>w</sub> values are higher than the reference values used in AERMOD in the absence of observations, then modeled impacts near the Delaware Water Gap, which are associated with direct plume impaction on the complex terrain, could be significantly lower. In contrast, larger σ<sub>w</sub> values would tend to increase concentrations in the lower terrain, northeast of the Portland Plant, by mixing the plume to the ground faster. This would result in maximum impacts closer to the source.

Based on the results from the initial coarse grid analysis, EPA developed a finer resolution receptor network that included two separate grids with 100-meter horizontal resolution. The smaller of the two fine resolution grids covers

the impact area near the Delaware Water Gap to the northwest, and is similar to NJDEP's 100-meter fine grid, but is extended an additional 500 meters to the north and east. The larger fine resolution grid is focused on the area surrounding the maximum design value from the EPA's initial coarse grid model run, and extends about 5 km north, 4 km east, 1 km south and 2 km west of the Portland Plant.

EPA's modeling based on the 100-meter fine receptor grids resulted in modeled design value (including background) of 851.1 µg/m<sup>3</sup> (about 325 ppb). The total concentration of 851.1 µg/m<sup>3</sup> consists of the contribution from the Portland Plant of 811.8 µg/m<sup>3</sup> plus 39.3 µg/m<sup>3</sup> from background. This result is slightly higher than (and near the location of) the controlling coarse grid result.

a. Calculation of Emissions Limits Based on Maximum Modeled Impacts From Units 1 and 2 Plus Background

As detailed previously, the modeled maximum 99th percentile (4th-highest) daily maximum 1-hour SO<sub>2</sub> concentration (including monitored background) from the Portland Plant in New Jersey was 851.1 µg/m<sup>3</sup>. Table VII.A-2 shows the contribution from each of the Portland Plant units to the design value concentration.

TABLE VII.A-2

Unit 1	Unit 2	Unit 5	Background	Total
371.7 µg/m <sup>3</sup> .....	439.2 µg/m <sup>3</sup> .....	0.91 µg/m <sup>3</sup> .....	39.3 µg/m <sup>3</sup> .....	851.1 µg/m <sup>3</sup> .

Based on this result, EPA calculated the emissions reduction needed to eliminate the Portland Plant's significant contribution to nonattainment in New Jersey. The calculation is relatively simple in this case because emissions from the Portland Plant alone cause violations of the 1-hour SO<sub>2</sub> NAAQS in New Jersey and background levels of SO<sub>2</sub> are very low. If the modeled concentration from the Portland Plant plus background is reduced to a level that is below the 1-hour SO<sub>2</sub> NAAQS, then there will be no modeled violations of the NAAQS in New Jersey.

Based on the EPA modeling results, an 81 percent reduction in allowable SO<sub>2</sub> emissions from Portland Plant units 1 and 2 is needed to reduce the Portland Plant contribution plus background to below the NAAQS. The calculation is as follows: (Total modeled concentration) - (NAAQS - background) / (total modeled

concentration). This calculation recognizes that the assumed background concentration cannot be reduced. The actual calculation based on Table VII.A-2 is (811.8) - (196 - 39.3) / 811.8. This results in a reduction of 80.7 percent, which we round to 81 percent.

In this calculation, the contribution from all modeled sources (units 1, 2, and 5) is included in the total contribution. However, the contribution from unit 5 is only 0.1 percent of the total contribution (0.91 µg/m<sup>3</sup> contribution to the design value). A reduction in the unit 5 contribution would provide a negligible reduction to the modeled design value. Therefore, it can be assumed that unit 5 emissions do not need to be reduced, and therefore can be added to the irreducible background value. This alternative calculation gives an emissions reduction of 80.8 percent (which is essentially the same as the previous 80.7 percent calculation). Therefore, we conclude

that only emissions reductions from units 1 and 2 are needed in order to ensure that the downwind area in New Jersey will be able to attain the NAAQS and will not have maintenance problems and that a revised emissions limit is not needed for unit 5.

While a total emissions reduction of 81 percent for both units 1 and 2 eliminates all modeled violations in New Jersey, an additional question remains. Can the emissions limit be met by over controlling one unit (by more than 81 percent) and under controlling the other unit (by less than 81 percent)? Based on our analysis, there are many different combinations of emissions limits for units 1 and 2 that would eliminate violations of the SO<sub>2</sub> NAAQS in New Jersey. However, the stack parameters (exit velocity and stack diameter) of units 1 and 2 are slightly different, which causes the maximum downwind impacts from each unit to occur at slightly different locations at

different times. Therefore, the emissions limit has to be assigned to each individual unit and cannot be a combined limit. There are many different combinations of emissions limits for units 1 and 2 that would eliminate violations of the SO<sub>2</sub> NAAQS in New Jersey, but we are not able to examine an unlimited number of combinations. Therefore we are proposing an emissions limit based on an 81 percent reduction in allowable emissions at both units 1 and 2. This leads to a proposed SO<sub>2</sub> emissions limit for unit 1 of 1105 lbs/hr (5820\*0.19) and a proposed SO<sub>2</sub> emissions limit for unit 2 of 1691 lbs/hr (8900\*0.19).

As a final check on the remedy, EPA ran AERMOD again with the above emissions limits on the Portland Plant's units 1 and 2 (and current allowable emissions from unit 5). At these proposed emissions levels, all receptors in New Jersey were below the 1-hour SO<sub>2</sub> NAAQS. The modeled 99th percentile (4th-highest) daily maximum 1-hour SO<sub>2</sub> concentration was 192.2 µg/m<sup>3</sup> (including a background concentration of 41.9 µg/m<sup>3</sup>).

EPA is requesting comment on other possible combinations or approaches in setting limits that are no less stringent than the proposed limits, but also result in elimination of the modeled violations while allowing for operating flexibility and load shifting. For example, a combined limit could be set for both units 1 and 2, in conjunction with individual limits, such as those proposed, for units 1 and 2. Similarly, a limit could be set for emissions from all relevant units at the plant accompanied by individual limits for units 1 and 2. EPA also requests comment on the proposed emissions limit calculations.

## VIII. Proposed Emission Limits and Compliance Schedules

### A. Statutory Requirements for Sources for Which EPA Makes a Section 126(b) Finding

Section 126(c) initially makes it unlawful for any major existing source to operate more than 3 months after a section 126 finding has been made with respect to it; yet also gives the Administrator authority to permit continued operation under certain conditions. Specifically, the statute provides that the Administrator "may permit the continued operation" of such a source beyond the end of the three month period "if such source complies with such emission limitations and compliance schedules (containing increments of progress) as may be provided by the Administrator to bring

about compliance with the requirements contained in section 7410(a)(2)(D)(i) of this title or this section as expeditiously as practicable, but in no case later than three years after the date of such finding." 72 U.S.C. 7426(c). Thus, unless the Administrator affirmatively decides to permit continued operation of the source and establishes emission limitations and compliance schedules, an existing major source subject to a section 126 finding must shut down in three months. However, if the source complies with the emission limitations and compliance schedules established by the Administrator, it may continue operation.

Section 126, however, does not give the Administrator unlimited discretion when establishing emission limitations and compliance schedules. Instead, the statute provides that the emission limitations and compliance schedules must bring about compliance with the requirements of section 110(a)(2)(D)(i) of the Act "as expeditiously as practicable" but in no case later than 3 years from the date of the finding. The use of the phrase "as expeditiously as practicable" allows for consideration of the time needed to implement a compliance option in setting a compliance schedule. However, the length of time needed to implement any given compliance option depends on the compliance option to be implemented. Furthermore, EPA recognizes that in some instances a source may choose to cease operation as its method of compliance. EPA is therefore requesting comment on the meaning of as "expeditious as practicable" in this context.

EPA recognizes both that the statute requires that any compliance schedule ensure compliance as "expeditiously as practicable" and also that while the statute directs EPA to establish emission limits and compliance schedules, it does not foreclose EPA from allowing the source to select a compliance option. EPA thus seeks to balance the statutory requirement of compliance as "expeditiously as practicable" with the goal of ensuring that the regulation does not unnecessarily limit the options available to the source to achieve compliance within the statutorily mandated timeframe. For these reasons, EPA has determined that it would be reasonable to interpret the statute as allowing EPA to develop different compliance schedules for different compliance options. By doing so, EPA can both give flexibility to the source to select an appropriate compliance option and ensure that compliance is achieved as "expeditiously as practicable." As discussed later, EPA is also explicitly requesting comment on how to interpret

the term "as expeditiously as practicable" when the method of compliance selected is to cease operations.

### B. Proposed Emission Limits

As explained in this subsection, EPA is proposing specific emission limitations and a specific compliance schedule that would apply unless the Portland Plant decides to cease operation as its method of compliance. EPA requests comment on all aspects of the emission limits and compliance schedule discussed later.

Based on the NJDEP AERMOD dispersion modeling analysis and EPA's independent assessment, EPA proposes to allow the continued operation of the Portland Plant beyond the three months, provided that the Portland Plant complies with a SO<sub>2</sub> emission limit of 1105 lbs/hr for unit 1, and 1691 lbs/hr for unit 2, representing an 81 percent reduction from currently allowable SO<sub>2</sub> emissions for each unit, to eliminate its significant contribution to nonattainment and prevent it from interfering with maintenance of the 1-hour SO<sub>2</sub> NAAQS in New Jersey. The source would be required to comply with this emission limit and the compliance deadlines and schedules (including increments of progress) set by EPA in the final rulemaking. EPA's proposed compliance schedules are discussed in more detail in sections C and D of this section.

EPA believes that these proposed emission limits for units 1 and 2 are appropriate since AERMOD modeling performed as described in section VII of this notice and in the TSD demonstrates that the Portland Plant must reduce its SO<sub>2</sub> emissions to these levels in order to reduce the modeled SO<sub>2</sub> concentration in New Jersey below the 1-hour SO<sub>2</sub> NAAQS level of 196 µg/m<sup>3</sup>. As also discussed previously, EPA believes this is the appropriate remedy in this particular circumstance where the modeling shows that emissions from a single plant (the Portland Plant) are, by themselves, causing NAAQS exceedances downwind and background concentrations of the relevant pollutant are low. EPA requests comment on the emission limits proposed for units 1 and 2.

EPA is not proposing to revise emission limits on the Portland Plant's smaller units (*i.e.*, units 3, 4, 5, and the auxiliary boiler). Based on our review of their emissions, EPA proposes revised emission limits are not needed at units 3, 4, 5, and the auxiliary boiler. Portland Plant units 3, 4, 5, and the auxiliary boiler have very small emissions, in comparison to units 1 and 2. EPA's

modeling of unit 5 found a total contribution of only 0.1 percent (*i.e.*, 0.91  $\mu\text{g}/\text{m}^3$  contribution to the design value) so that reductions in its contribution would provide a negligible reduction to the modeled design value and thus do not need to be reduced. Annual  $\text{SO}_2$  emissions reported in the 2008 NEI, Version 1 for the auxiliary boiler, unit 3 and unit 4 were 0.01, 0.02, and 0.03 tons, respectively. Therefore, given the negligible modeled contribution from unit 5, it can be assumed that emissions from these units do not need to be reduced. Therefore, units 3, 4, 5, and the auxiliary boiler can continue to operate at their previous emissions limit. EPA requests comment on its proposed determination not to establish emission limits for units 3, 4, 5, and the auxiliary boiler.

### C. Proposed Compliance Schedules

Section 126 allows the Administrator to permit the continued operation of a source if the source complies with emission limitations and compliance schedules (including increments of progress) to bring about compliance as expeditiously as practicable but in no case later than 3 years after the date of the finding. See 42 U.S.C. 7426(c). EPA proposes in this section the compliance schedule that would apply unless the source opts to cease operation of the units subject to emission limits. In subsection D later, EPA is requesting comment on an alternate compliance schedule that would apply if the source opts to cease operations at units subject to emission limits as its method of compliance. As part of that, we are asking for comment on what would constitute compliance "as expeditiously as practicable" if the source decides to cease operation of the units subject to emission limits as its method of compliance. The proposed compliance schedule and increments of progress discussed in this subsection were developed based on the assumption that the plant would need time to install controls to reduce its emissions. They would not apply if the compliance option selected is to cease operation of the units subject to emission limits.

EPA proposes to require compliance with the emission limits described in subsection VIII.B no later than 3 years from the effective date of the section 126 finding. EPA is asking for comment on whether 3 years from the effective date of the section 126 finding is "as expeditious as practicable." In addition, EPA proposes a schedule of interim reduction steps that will provide incremental progress toward eventual compliance with the requirements of section 110(a)(2)(D)(i)(I) and a schedule

of milestones that must be achieved to provide assurance that the source is on track to achieve full compliance as expeditiously as practicable and no later than the 3 year deadline.

EPA is proposing to include an interim reduction requirement because section 126 calls for the establishment of a compliance schedule "including increments of progress," 42 U.S.C. 7426, and interim reduction requirements constitute important increments of progress towards full compliance. More specifically, EPA is proposing to require the source to meet an  $\text{SO}_2$  emission limit of 2910 lbs/hr for unit 1 and 4450 lbs/hr for unit 2, representing a 50 percent reduction from allowable  $\text{SO}_2$  emissions, after 1 year. EPA is proposing this interim reduction because, as explained previously in further detail, EPA's analysis supports that the Portland Plant's Units 1 and 2 are significantly contributing to nonattainment or interfering with maintenance of the 1-hour  $\text{SO}_2$  NAAQS in New Jersey. EPA has evaluated the emission reduction options available and has determined that several potentially available options could provide incremental reductions such as reagent injection, switching to lower sulfur coal and load shifting. Information from the U.S. Department of Interior, U.S. Geological Survey indicates lower sulfur coal may be available in Pennsylvania.<sup>28</sup> EPA's analysis of available control technologies for coal-fired electric generating units and experience with coal-fired electric generating units also support that reagent injection can achieve emissions reductions at coal-fired electric generating units in excess of fifty percent and can be installed and operational on coal-fired electric generating units in less than 12 months.<sup>29</sup> EPA requests comment on the

<sup>28</sup> See information from the U.S. Department of the Interior, U.S. Geological Survey at <http://pubs.usgs.gov/of/1998/of98-763/#fig2>.

<sup>29</sup> See Summary Report, *Trona Injection Tests, Mirant Potomac River Station, Unit 1*, November 12- December 23, 2005 at [http://www.oe.energy.gov/DocumentsandMedia/mirant\\_012006\\_g.pdf](http://www.oe.energy.gov/DocumentsandMedia/mirant_012006_g.pdf); Kong, Yougen and Davidson, Heidi, *Dry Sorbent Injection of Sodium Sorbents for  $\text{SO}_2$ , HCl, and Mercury Mitigation*, May 11-13, 2010 at <http://www.seas.columbia.edu/earth/wtert/sofos/nawtec/nawtec18/nawtec18-3560.pdf>; ADA-ES, Inc., *TOXECON™ Retrofit for Multi-Pollutant Control on Three 90-MW Coal-Fired Boilers, Topical Report: Performance and Economic Assessment of Trona-Based  $\text{SO}_2/\text{NO}_x$  Removal at the Presque Isle Power Plant Prepared for We Energies and DOE/NETL*, August 25, 2008 at <http://www.netl.doe.gov/technologies/coalpower/cctc/ccpi/pubs/SOx-Ox%20Reduction%20at%20PIPP%20-20Topical%20Report%20Final.pdf>; and ENSR Corporation, *BART Analysis for the Kincaid Power Plant Prepared for Dominion Energy, Inc.*, January 2009 at <http://www.epa.state.il.us/air/drafts/regional-haze/bart-kincaid.pdf>.

proposed interim reduction requirements for units 1 and 2, including achievability of limits in the time proposed, and the impact of the reductions on the reliability of the electric grid.

EPA also proposes to establish the following milestones that the source would be required to meet to demonstrate that it is on track to achieving full compliance as expeditiously as practicable and no later than the 3 year deadline.

(1) Within 3 months of EPA's finding, the Portland Plant shall notify EPA whether it will continue to operate subject to the emission limitations and compliance schedules established by EPA herein, whether under the proposed emissions limits or under an alternative where the plant would cease operation, such as the alternative compliance option presented for comment later in this notice, in which the plant could choose to cease operation by a date certain, and meet certain interim milestones for reducing emissions. If the plant plans to continue to operate subject to emissions limits, the plant shall also indicate how the plant intends to achieve full compliance with the emission limits established in this notice. Specifically, the plant must indicate whether it intends to cease or reduce operation at any emission unit subject to emission limits as its method of compliance with such limits. The Portland Plant must also include in this notice what physical or operational changes, if any, the plant will implement as its method of compliance with the emission limits and compliance schedules EPA will establish in the section 126 finding, including predicted emissions reductions and emission rates after changes are implemented. EPA requests comment on all aspects of this proposed requirement, including on what specific information should be included in this notification and the appropriate level of detail that should be required.

(2) If the notice required by paragraph (1) above indicates that the plant intends to continue operation of the plant past the three month period, the plant must also comply with the requirements in paragraphs (3)–(7) later.

(3) No later than 3 months from the date of the section 126 finding, the Portland Plant shall submit to EPA a modeling protocol, consistent with EPA's Guideline on Air Quality Models, which is codified at 40 CFR Part 51, Appendix W and other relevant modeling guidance issued to support regulatory programs, for air modeling of the selected remedy. The air modeling to be conducted by the source will need



to demonstrate that, when that remedy is implemented, the Portland Plant will no longer significantly contribute to nonattainment or interfere with maintenance in New Jersey with respect to the 1-hour SO<sub>2</sub> NAAQS. All units at the Portland Plant (*i.e.*, units 1 thru 5 plus the auxiliary boiler) shall be included in the modeling analysis, in order to demonstrate that emissions from the Portland Plant will not significantly contribute to nonattainment or interfere with maintenance with respect to the 1-hour SO<sub>2</sub> NAAQS.

(4) If EPA identifies deficiencies in the modeling protocol submitted by the source, the Portland Plant will have 15 business days to submit a revision to correct any deficiencies identified by EPA.

(5) No later than 6 months from the date of the section 126 finding, Portland Plant shall submit a modeling analysis for the selected remedy performed in accordance with the modeling protocol.

(6) Beginning 6 months after the section 126 finding and continuing every 6 months until the final compliance date, the Portland Plant shall submit to EPA a progress report on the implementation of the remedy, including status of design, technology selection, development of technical specifications, awarding of contracts, construction, shakedown, and compliance demonstration.

(7) No later than 3 years following EPA's final rulemaking, the Portland Plant shall submit a final project report which demonstrates compliance with the emission limits in the final rulemaking. The final report shall include the date when full operation of controls was achieved at the Portland Plant after shakedown; as well as a minimum of 1 month of CEMS data demonstrating compliance with the emission limits in the final rulemaking.

EPA requests comment on all aspects of this proposed compliance schedule and the proposed increments of progress. Key issues EPA is requesting comment on include: Whether the compliance schedule is sufficient to achieve compliance as expeditiously as practicable; whether additional increments of progress are necessary and, if so, what they should be; what level of detail should be required in the notices the Portland Plant will be required to submit; whether the deadline for each increment of progress is appropriate or should be sooner or later; whether continued periodic progress reports should be required after the final compliance date; and whether the required progress reports and final

project reports are sufficient to document and demonstrate compliance.

#### *D. Alternate Compliance Schedule*

As noted previously, EPA is also requesting comment on how to interpret the phrase "compliance as expeditiously as practicable" when the source has selected to cease operation of either unit as its method of compliance with the emission limit for that unit and cessation cannot occur within 3 months of EPA's finding. If EPA determines that it is appropriate to do so, EPA will include in the final rule a compliance schedule and increments of progress that would apply only if the source opts to cease operations at either unit subject to an emission limit as its method of compliance with the limit. EPA, therefore, is also requesting comment on what an appropriate compliance schedule would be, what factors EPA should consider in setting the compliance schedule, and what form the increments of progress should take. Though not an exhaustive list of relevant factors, EPA is taking comment on the following factors for determining what "compliance as expeditiously as practicable" means when compliance with an emission limit is to be achieved by ceasing to operate the unit subject to the limit: Electricity grid reliability issues; contracts that the source has with the electric utility independent service operator (ISO); other contractual obligations that the source has that would be impacted by a shutdown; whether the source is designated as a reliability must-run unit for any purpose by the ISO; whether some amount of electricity generating capacity at the source could be shut down in a shorter time period without creating reliability issues for the grid; what types of actions are required to address grid reliability (if there are any such issues), such as transmission line upgrades; how long it would take to address reliability issues (if there are any such issues); and the continued impact of interstate transport of emissions from the source on air quality in the affected State. EPA is also taking comment on whether other factors should be considered, and requests that commenters identify any additional relevant factors. In light of the factors enumerated previously as well as any other relevant factors, EPA is requesting comment on what would be an appropriate compliance schedule, that is as expeditious as practicable but no later than 3 years after the date of such finding, if compliance with the requirements of section 110(a)(2)(D)(i) is to be achieved by ceasing operations of the unit subject to the limit and

cessation of operations cannot occur within 3 months of EPA's finding.

In addition to these factors, EPA also requests comment on what increments of progress should be established as part of the compliance schedule discussed previously. EPA specifically requests comment on the relevant milestones that should be included in a compliance schedule. At a minimum the interim milestones discussed in paragraphs (1) through (4) of section VIII.C would apply. That is, the Portland Plant would be required to notify EPA whether it will cease to operate within 3 months of EPA's finding or whether it will continue to operate subject to the emission limitations and compliance schedules established by EPA herein. The Portland Plant would also need to submit a protocol for and later submit air quality modeling sufficient to demonstrate that emissions from the plant, after implementation of the remedy, will no longer significantly contribute to nonattainment or interfere with maintenance of the 1-hour SO<sub>2</sub> NAAQS in New Jersey. This requirement would be waived only if the source opted to cease operation of all emitting units at the Portland Plant.

EPA also specifically requests comment as to whether to include interim emission reductions during the period of time that the plant continues to operate after such a finding until the eventual shutdown. And if so, EPA requests comment as to the appropriate level of emission reductions.

### **IX. Statutory and Executive Order Reviews**

*A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review*

This proposed action is not a "significant regulatory action" under the terms of Executive Order (EO) 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011) and is therefore not subject to review under EO 12866 or EO 13563.

#### *B. Paperwork Reduction Act*

This action does not impose an information collection burden under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.*, because this proposed rule, if finalized, under section 126 of the CAA will not in-and-of itself create any new information collection burdens but simply establishes a SO<sub>2</sub> emission limit at the Portland Plant. Burden is defined at 5 CFR 1320.3(b).

### C. Regulatory Flexibility Act (RFA)

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The SO<sub>2</sub> emission limits for the Portland Plant being proposed in this notice do not impose any new requirements on small entities.

We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

### D. Unfunded Mandates Reform Act

This rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any 1 year. The costs necessary to comply with the emission limit proposed in this notice are not expected to exceed \$100 million or more for State, local, and Tribal governments, in aggregate, or the private sector in any 1 year. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. The requirements for compliance in this action will be borne by a single, privately owned source.

### E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial

direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The proposed rule primarily affects private industry, and does not impose significant economic costs on State or local governments. Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed action from State and local officials.

### F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have Tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have a substantial direct effect on Tribal governments, on the relationship between the Federal government and Indian Tribes, or the distribution of power and responsibilities between the Federal government and Indian Tribes. Thus, Executive Order 13175 does not apply to this action.

### G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it proposes to improve a State action for the implementation of a previously promulgated health or safety based Federal standards. EPA believes that the proposed emissions reductions in this rule will further improve air quality and will further improve children's health.

### H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

### I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement

Act of 1995 ("NTTAA"), Public Law 104-113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

### J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994), establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule, if finalized, will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. This proposed rule limits emissions of SO<sub>2</sub> from the Portland Plant located in Northampton County, Pennsylvania.

### List of Subjects in 40 CFR Part 52

Administrative practice and procedure, Air pollution control, Intergovernmental relations, Reporting and recordkeeping requirements, Sulfur dioxide.

Dated: March 31, 2011.

**Lisa P. Jackson,**  
Administrator.

For the reasons set forth in the preamble part 52 of chapter I of title 40

of the Code of Federal regulations are proposed to be amended as follows:

#### **PART 52—[AMENDED]**

1. The authority citation for part 52 continues to read as follows:

*Authority:* 42 U.S.C. 7401 *et seq.*

#### **Subpart NN— Pennsylvania**

2. Section 52.2039 is added to read as follows:

##### **§ 52.2039 Interstate transport.**

EPA has made a finding pursuant to section 126 of the Clean Air Act that emissions of sulfur dioxide (SO<sub>2</sub>) from the Portland Generating Station in Northampton County, Upper Mount Bethel Township, Pennsylvania significantly contribute to nonattainment and interfere with maintenance of the 1-hour SO<sub>2</sub> national ambient air quality standard (NAAQS) in New Jersey. The owners and operators of the Portland Generating Station shall either cease operations no later than 90 days from the effective date of the section 126 finding or comply with the requirements in paragraphs (b) through (e) of this section.

(a) No later than 90 days from the effective date of the section 126 finding, the owners and operators of the Portland Generating Station shall notify EPA whether the owners and operators will operate the Portland Generating Station after the date 90 days after the effective date of the section 126 finding in compliance with the requirements in paragraphs (b) through (e) of this section. If the owners and operators will operate the Portland Generating Station after such date, such notice must also specify the methods to be used to ensure compliance with the emission limits in paragraphs (b) and (c) of this section.

(b) The owners and operators of Portland Generating Station in Upper Mount Bethel Township, Northampton County, Pennsylvania, shall not, at any time later than three years after the effective date of the section 126 finding, emit SO<sub>2</sub> (as determined in accordance with part 75 of this chapter) in excess of the following limits:

(1) 1,105 pounds per hour (“lbs/hr”) for unit 1 (identified with source ID 031 in Title V Permit No. 48–0006) and

(2) 1,691 lbs/hr for unit 2 (identified with source ID 032 in Title V Permit No. 48–0006).

(c) The owners and operators of the Portland Generating Station in Upper Mount Bethel Township, Northampton County, Pennsylvania, shall not, at any time later than one year after the effective date of the section 126 finding,

emit SO<sub>2</sub> (as determined in accordance with part 75 of this chapter) in excess of the following limits:

(1) 2,910 lbs/hr for unit 1 (identified with source ID 031 in Title V Permit No. 48–0006); and

(2) 4,450 lbs/hr for unit 2 (identified with source ID 032 in Title V Permit No. 48–0006);

(3) Provided that the limits in paragraphs (c)(1) and (c)(2) of this section shall not apply if the notice required by paragraph (a) of this section indicates that the owners and operators of the Portland Generating Station have decided to completely and permanently cease operation of unit 1 (identified with source ID 031 in Title V Permit No. 48–0006) and unit 2 (identified with source ID 032 in Title V Permit No. 48–0006) as the method of compliance with the emission limits in paragraph (b) of this section.

(d) The owners and operators of the Portland Generating Station shall comply with the following requirements:

(1) Perform air modeling to demonstrate that, starting no later than three years after the effective date of the section 126 finding, emissions from the Portland Generating Station will not significantly contribute to nonattainment or interfere with maintenance of the 1-hour SO<sub>2</sub> NAAQS in New Jersey, in accordance with the following requirements:

(i) No later than 90 days after the effective date of the section 126 finding, submit to EPA a modeling protocol that is consistent with EPA’s Guideline on Air Quality Models, as codified at 40 CFR Part 51, Appendix W, and that includes all units at the Portland Generating Station in the modeling.

(ii) Within 15 business days of receipt of a notice from EPA of any deficiencies in the modeling protocol under paragraph (d)(1)(i) of this section, submit to EPA a revised modeling protocol to correct any deficiencies identified in such notice.

(iii) No later than 180 days after the effective date of the section 126 finding, submit to EPA a modeling analysis, performed in accordance with the modeling protocol under paragraphs (d)(1)(i) and (d)(1)(ii) of this section, for the compliance methods identified in the notice required by paragraph (a) of this section.

(2) Starting 180 days after the effective date of the section 126 finding and continuing every six months until the date three years after the effective date of the section 126 finding, submit to EPA progress reports on the implementation of the methods of compliance identified in the notice

required by paragraph (a) of this section, including status of design, technology selection, development of technical specifications, awarding of contracts, construction, shakedown, and compliance demonstration. These reports shall include:

(i) An interim project report, submitted no later than one year after the effective date of the section 126 finding, that demonstrates compliance with the emission limits in paragraph (c) of this section.

(ii) A final project report, submitted no later than three years after the effective date of the section 126 finding, that demonstrates compliance with the emission limits in paragraph (b) of this section and that includes the date when full operation of controls was achieved at the Portland Generating Station after shakedown.

(3) The requirements in paragraphs (d)(1) and (d)(2) of this section shall not apply if the notice required by paragraph (a) of this section indicates that the owners and operators of the Portland Generating Station have decided to completely and permanently cease operation of unit 1 (identified with source ID 031 in Title V Permit No. 48–0006) and unit 2 (identified with source ID 032 in Title V Permit No. 48–0006) as the method of compliance with the emission limits in paragraph (b) of this section.

(e) If the notice required by paragraph (a) of this section indicates that the owners and operators of the Portland Generating Station have decided to completely and permanently cease operation of unit 1 (identified with source ID 031 in Title V Permit No. 48–0006) and unit 2 (identified with source ID 032 in Title V Permit No. 48–0006) as the method of compliance with the emission limits in paragraph (b) of this section, the owners and operators shall meet the following requirements:

(1) No later than 90 days after the effective date of the section 126 finding, submit to EPA an analysis of the time required to completely and permanently cease operations at unit 1 (identified with source ID 031 in Title V Permit No. 48–0006) and unit 2 (identified with source ID 032 in Title V Permit No. 48–0006) as expeditiously as practicable.

(2) Within 15 business days of receipt of notice from EPA of any deficiencies in the analysis under paragraph (e)(1) of this section, submit to EPA a revised analysis to correct any deficiencies identified by EPA.

(3) Completely and permanently cease operation of unit 1 (identified with source ID 031 in Title V Permit No. 48–0006) by the date that achieves, as determined by the Administrator,

expeditious as practicable cessation of operation.

(4) Completely and permanently cease operation of unit 2 (identified with

source ID 032 in Title V Permit No. 48-0006) by the date that achieves, as determined by the Administrator,

expeditious as practicable cessation of operation.

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