- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

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

List of Subjects in 40 CFR Part 52

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

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

Dated: March 16, 2017.

Deborah A. Szaro,

Acting Regional Administrator, EPA New England.

[FR Doc. 2017–09174 Filed 5–5–17; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R01–OAR–2015–0198; FRL–9961–16–Region 1]

Air Plan Approval; CT; Infrastructure Requirement for the 2010 Sulfur Dioxide National Ambient Air Quality Standard

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve the remaining portion of a State Implementation Plan (SIP) revision submitted by the State of Connecticut. This revision addresses the interstate transport requirements of the Clean Air Act (CAA), referred to as the good neighbor provision, with respect to the 2010 sulfur dioxide (SO_2) national ambient air quality standard (NAAQS). This action proposes to approve Connecticut's demonstration that the state is meeting its obligations regarding the transport of SO_2 emissions into other states. This action is being taken under the Clean Air Act.

DATES: Written comments must be received on or before June 7, 2017.

ADDRESSES: Submit your comments, identified by Docket ID Number EPA–R01–OAR–2015–0198 by one of the following methods:

1. *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
2. *Email: dahl.donald@epa.gov.*
3. *Fax:* (617) 918–0657.
4. *Mail:* ''Docket Identification Number EPA–R01–OAR–2015–0198,'' Donald Dahl, U.S. Environmental Protection Agency, EPA New England Regional Office, Office of Ecosystem Protection, Air Permits, Toxics, and Indoor Programs Unit, 5 Post Office Square—Suite 100, (mail code OEP05–2), Boston, MA 02109—3912.
5. *Hand Delivery or Courier.* At the previously listed EPA Region I address. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m., excluding legal holidays.

Instructions: Direct your comments to Docket ID No. EPA–R01–OAR–2015–0198. 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 through *http://www.regulations.gov,* or email, information that you consider to be CBI or otherwise protected. 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 email comment directly to EPA without going through *http://www.regulations.gov* your email 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, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the electronic docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *i.e.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available at *http://www.regulations.gov* or at U.S. Environmental Protection Agency, EPA New England Regional Office, Office of Ecosystem Protection, Air Quality Planning Unit, 5 Post Office Square—Suite 100, Boston, MA. EPA requests that if at all possible, you contact the contact listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office's official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m., excluding legal holidays.

In addition, copies of the state submittal and EPA's technical support document are also available for public inspection during normal business hours, by appointment at the State Air Agency; the Bureau of Air Management, Department of Energy and Environmental Protection, State Office Building, 79 Elm Street, Hartford, CT 06106–1630.

FOR FURTHER INFORMATION CONTACT: Donald Dahl, (617) 918–1657; or by email at *dahl.donald@epa.gov.*

SUPPLEMENTARY INFORMATION: Throughout this document whenever ''we,'' ''us,'' or ''our'' is used, we mean EPA.

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I. Background

On June 22, 2010 (75 FR 35520), EPA promulgated a revised primary NAAQS for SO_2 at a level of 75 ppb, based on a 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. Pursuant to section 110(a)(1) of the CAA, states are required to submit SIPs meeting the applicable requirements of section 110(a)(2) within three years after promulgation of a new or revised NAAQS or within such shorter period as EPA may prescribe. These SIPs, which EPA has historically referred to as ''infrastructure SIPs,'' are to provide for the ''implementation, maintenance, and enforcement'' of such NAAQS, and the requirements are designed to ensure that the structural components of each state's air quality management program are adequate to meet the state's responsibility under the CAA. A detailed history, interpretation, and rationale of these SIPs and their requirements can be found among other citations, in EPA's May 13, 2014 proposed rule titled, ''Infrastructure SIP requirements for the 2008 Lead NAAQS'' in the section, ''What is the scope of this rulemaking?'' (*see* 79 FR 27241 at 27242–27245). Section 110(a) of the CAA imposes the obligation upon states to make a SIP submission to EPA for a new or revised NAAQS, but the contents of individual state submissions may vary depending upon the facts and circumstances. The content of the revisions proposed in such SIP submissions may also vary depending upon what provisions the state's approved SIP already contains.

On May 30, 2013, the Connecticut Department of Energy and Environmental Protection (CT DEEP) submitted a revision to its SIP, certifying its SIP meets the requirements of section 110(a)(2) of the CAA with respect to the 2010 SO_2 NAAQS. On June 3, 2016 (81 FR 35636), EPA approved CT DEEP's certification that its SIP was adequate to meet most of the program elements required by section 110(a)(2) of the CAA with respect to the 2010 SO_2 NAAQS. However, at that time, EPA did not take action on CT DEEP's certification that its SIP met the requirements of section 110(a)(2)(D)(i)(I). EPA is now proposing to act on this element, section 110(a)(2)(D)(i)(I) of CT DEEP's May 30, 2013 submission to address the 2010 SO_2 NAAQS.

II. Summary of the Proposed Action

This proposed approval of Connecticut's SIP addressing interstate transport of SO_2 is intended to show that the state is meeting its obligations regarding CAA section 110(a)(2)(D)(i)(I) relative to the 2010 SO_2 NAAQS.[1] Interstate transport requirements for all NAAQS pollutants prohibit any source—or other type of emissions activity—in one state from emitting any air pollutant in amounts that will contribute significantly to nonattainment, or interfere with maintenance, of the NAAQS in another state. As part of this analysis, and as explained in detail below, EPA has taken several approaches to addressing interstate transport in other actions based on the characteristics of the pollutant, the interstate problem presented by emissions of that pollutant, the sources that emit the pollutant, and the information available to assess transport of that pollutant.

Despite being emitted from a similar universe of point and nonpoint sources, interstate transport of SO_2 is unlike the transport of fine particulate matter ($PM_{2.5}$) or ozone that EPA has addressed in other actions in that SO_2 is not a regional mixing pollutant that commonly contributes to widespread nonattainment of the SO_2 NAAQS over a large (and often multi-state) area. While transport of SO_2 is more analogous to the transport of lead (Pb) since its physical properties result in localized pollutant impacts very near the emissions source, the physical properties and release height of SO_2 are such that impacts of SO_2 do not experience the same sharp decrease in ambient concentrations as rapidly and as nearby as for Pb. Emissions of SO_2 travel further and have sufficiently wider ranging impacts than emissions of Pb to require a different approach than handling Pb transport, but not far enough to be treated in a manner similar to regional transport pollutants such as ozone or $PM_{2.5}$.

Put simply, a different approach is needed for interstate transport of SO_2: The approaches EPA has adopted for Pb transport are too tightly circumscribed to the source, and the approaches for ozone or $PM_{2.5}$ transport are too regionally focused. SO_2 transport is therefore a unique case, and EPA's evaluation of whether Connecticut has met is transport obligations was accomplished in several discrete steps. First, EPA evaluated what universe of sources are likely to be responsible for SO_2 emissions that could contribute to interstate transport. An assessment of the 2014 National Emissions Inventory (NEI) for Connecticut made it clear that the vast majority of SO_2 emissions in Connecticut are from fuel combustion at point and nonpoint sources, and therefore it would be reasonable to evaluate the downwind impacts of emissions from the combined fuel combustion source categories in order to help determine whether the state has met is transport obligations.

Second, EPA selected a spatial scale—essentially, the geographic area and distance around the point sources in which we could reasonably expect SO_2 impacts to occur—that would be appropriate for its analysis, ultimately settling on utilizing an ''urban scale'' with dimensions from 4 to 50 kilometers from point sources given the usefulness of that range in assessing trends in both area-wide air quality and the effectiveness of large-scale pollution control strategies at those point sources. As such, EPA utilized an assessment up to 50 kilometers from fuel-combustion point sources in order to assess trends in area-wide air quality that might have an impact on the transport of SO_2 from Connecticut to downwind states.

Third, EPA assessed all available data at the time of this rulemaking regarding SO_2 emissions in Connecticut and their possible impacts in downwind states, including: SO_2 ambient air quality; SO_2 emissions and SO_2 emissions trends; SIP-approved SO_2 regulations and permitting requirements; available air dispersion modeling; and, other SIP-approved or Federally promulgated regulations which may yield reductions of SO_2 at Connecticut's fuel-combustion point and nonpoint sources.

[1] This proposed approval of Connecticut's SIP under CAA section 110(a)(2)(D)(i)(I) is based on the information contained in the administrative record for this action, and does not prejudge any other future EPA action that may make other determinations regarding Connecticut's air quality status. Any such future actions, such as area designations under any NAAQS, will be based on their own administrative records and EPA's analyses of information that becomes available at those times. Future available information may include, and is not limited to, monitoring data and modeling analyses conducted pursuant to EPA's Data Requirements Rule (80 FR 51052, August 21, 2015) and information submitted to EPA by states, air agencies, and third party stakeholders such as citizen groups and industry representatives.

Fourth, using the universe of information identified in steps 1–3 (*i.e.,* emissions sources, spatial scale and available data, modeling results and enforceable regulations), EPA then conducted an analysis under CAA section 110(a)(2)(D)(i)(I) to evaluate whether or not fuel-combustion sources in Connecticut would significantly contribute to nonattainment in other states, and then whether they would interfere with maintenance of the NAAQS in other states.

Based on the analysis provided by the state in its SIP submission and EPA's assessment of the information in that submittal for each of the factors discussed at length below in this action, EPA proposes to find that sources or emissions activity within Connecticut will not contribute significantly to nonattainment, nor will they interfere with maintenance of, the 2010 primary SO_2 NAAQS in any other state.

III. Section 110(a)(2)(D)(i)(I)—Interstate Transport

A. General Requirements and Historical Approaches for Criteria Pollutants

Section 110(a)(2)(D)(i)(I) requires SIPs to include provisions prohibiting any source or other type of emissions activity in one state from emitting any air pollutant in amounts that will contribute significantly to nonattainment, or interfere with maintenance, of the NAAQS in another state. The two clauses of this section are referred to as prong 1 (significant contribution to nonattainment) and prong 2 (interference with maintenance of the NAAQS).

EPA's most recent infrastructure SIP guidance, the September 13, 2013 ''Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Sections 110(a)(1) and 110(a)(2),'' did not explicitly include criteria for how the Agency would evaluate infrastructure SIP submissions intended to address section 110(a)(2)(D)(i)(I).[2] With respect to certain pollutants, such as ozone and particulate matter, EPA has addressed interstate transport in eastern states in the context of regional rulemaking actions that quantify state emission reduction obligations.[3] In other actions, such as EPA action on western state SIPs addressing ozone and particulate matter, EPA has considered a variety of factors on a case-by-case basis to determine whether emissions from one state interfere with the attainment and maintenance of the NAAQS in another state. In such actions, EPA has considered available information such as current air quality, emissions data and trends, meteorology, and topography.[4]

For other pollutants such as Pb, EPA has suggested the applicable interstate transport requirements of section 110(a)(2)(D)(i)(I) can be met through a state's assessment as to whether or not emissions from Pb sources located in close proximity to its borders have emissions that impact a neighboring state such that they contribute significantly to nonattainment or interfere with maintenance in that state. For example, EPA noted in an October 14, 2011 memorandum titled, ''Guidance on Infrastructure SIP Elements Required Under Sections 110(a)(1) and 110(a)(2) for the 2008 Pb NAAQS,'' [5] that the physical properties of Pb prevent its emissions from experiencing the same travel or formation phenomena as $PM_{2.5}$ or ozone, and there is a sharp decrease in Pb concentrations, at least in the coarse fraction, as the distance from a Pb source increases. Accordingly, while it may be possible for a source in a state to emit Pb in a location and in quantities that may contribute significantly to nonattainment in, or interfere with maintenance by, any other state, EPA anticipates that this would be a rare situation, *e.g.,* where large sources are in close proximity to state boundaries.[6] Our rationale and explanation for approving the applicable interstate transport requirements under section 110(a)(2)(D)(i)(I) for the 2008 Pb NAAQS, consistent with EPA's interpretation of the October 14, 2011 guidance document, can be found among other instances, in the proposed approval and a subsequent final approval of interstate transport SIPs submitted by Illinois, Michigan, Minnesota, and Wisconsin.[7]

B. Approach for Addressing the Interstate Transport Requirements of the 2010 Primary SO_2 NAAQS in Connecticut

As previously noted, section 110(a)(2)(D)(i)(I) requires an evaluation of any source or other type of emissions activity in one state and how emissions from these source categories may impact air quality in other states. The EPA believes that a reasonable starting point for determining which sources and emissions activities in Connecticut are likely to impact downwind air quality with respect to the SO_2 NAAQS is by using information in the NEI.[8] The NEI is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emissions sources, and is updated every three years using information provided by the states. At the time of this rulemaking, the most recently available dataset is the 2014 NEI, and the state summary for Connecticut is included in the table below.

TABLE 1—SUMMARY OF 2014 NEI SO_2 DATA FOR CONNECTICUT

Category	Emissions (tons per year)
Fuel Combustion: Electric Utilities	1,511
Fuel Combustion: Industrial	759
Fuel Combustion: Other	9,170
Waste Disposal and Recycling	466
Highway Vehicles	267
Off-Highway	244
Miscellaneous	8
Total	12,425

The EPA observes that according to the 2014 NEI, the vast majority of SO_2 emissions in Connecticut originate from fuel combustion at point and nonpoint sources. Therefore, an assessment of

[2] At the time the September 13, 2013 guidance was issued, EPA was litigating challenges raised with respect to its Cross State Air Pollution Rule (''CSAPR''), 76 FR 48208 (Aug. 8, 2011), designed to address the CAA section 110(a)(2)(D)(i)(I) interstate transport requirements with respect to the 1997 ozone and the 1997 and 2006 $PM_{2.5}$ NAAQS. CSAPR was vacated and remanded by the D.C. Circuit in 2012 pursuant to *EME Homer City Generation, L.P.* v. *EPA,* 696 F.3d 7. EPA subsequently sought review of the D.C. Circuit's decision by the Supreme Court, which was granted in June 2013. As EPA was in the process of litigating the interpretation of section 110(a)(2)(D)(i)(I) at the time the infrastructure SIP guidance was issued, EPA did not issue guidance specific to that provision. The Supreme Court subsequently vacated the D.C. Circuit's decision and remanded the case to that court for further review. 134 S.Ct. 1584 (2014). On July 28, 2015, the D.C. Circuit issued a decision upholding CSAPR, but remanding certain elements for reconsideration. 795 F.3d 118.

[3] NO_X SIP Call, 63 FR 57371 (October 27, 1998); Clean Air Interstate Rule (CAIR), 70 FR 25172 (May 12, 2005); CSAPR, 76 FR 48208 (August 8, 2011).

[4] *See, e.g.,* Approval and Promulgation of Implementation Plans; State of California; Interstate Transport of Pollution; Significant Contribution to Nonattainment and Interference With Maintenance Requirements, Proposed Rule, 76 FR 146516, 14616–14626 (March 17, 2011); Final Rule, 76 FR 34872 (June 15, 2011); Approval and Promulgation of State Implementation Plans; State of Colorado; Interstate Transport of Pollution for the 2006 24-Hour $PM_{2.5}$ NAAQS, Proposed Rule, 80 FR 27121, 27124–27125 (May 12, 2015); Final Rule, 80 FR 47862 (August 10, 2015).

[5] *https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/20111014_page_lead_caa_110_infrastructure_guidance.pdf.*

[6] Id. at pp 7–8.

[7] *See* 79 FR 27241 at 27249 (May 13, 2014) and 79 FR 41439 (July 16, 2014).

[8] *https://www.epa.gov/air-emissions-inventories/national-emissions-inventory.*

Connecticut's satisfaction of all applicable requirements under section 110(a)(2)(D)(i)(I) of the CAA for the 2010 SO_2 NAAQS may be reasonably based upon evaluating the downwind impacts of emissions from the combined fuel combustion categories (*i.e.,* electric utilities, industrial processes, and other sources [9]).

The definitions contained in appendix D to 40 CFR part 58 are helpful indicators of the travel and formation phenomenon for SO_2 in its stoichiometric gaseous form in the context of the 2010 primary SO_2 NAAQS originating from stationary sources. Notably, section 4.4 of this appendix titled, ''Sulfur Dioxide (SO_2) Design Criteria'' provides definitions for SO_2 Monitoring Spatial Scales for microscale, middle scale, neighborhood, and urban scale monitors. The microscale includes areas in close proximity to SO_2 point and area sources, and extend approximately 100 meters from a facility. The middle scale generally represents air quality levels in areas 100 meters to 500 meters from a facility, and may include locations of maximum expected short-term concentrations due to proximity of major SO_2 point, area, and non-road sources. The neighborhood scale characterizes air quality conditions between 0.5 kilometers and 4 kilometers from a facility, and emissions from stationary and point sources may under certain plume conditions, result in high SO_2 concentrations at this scale. Lastly, the urban scale is used to estimate concentrations over large portions of an urban area with dimensions of 4 to 50 kilometers from a facility, and such measurements would be useful for assessing trends and concentrations in area-wide air quality, and hence, the effectiveness of large-scale pollution control strategies. Based on these definitions contained in EPA's own regulations, we believe that it is appropriate to examine the impacts of emissions from electric utilities and industrial processes in Connecticut in distances ranging from 0 km to 50 km from the facility. In other words, SO_2 emissions from stationary sources in the context of the 2010 primary NAAQS do not exhibit the same long-distance travel, regional transport or formation phenomena as either ozone or $PM_{2.5}$, but rather, these emissions behave more like Pb with localized dispersion. Therefore, an assessment up to 50 kilometers from potential sources would be useful for assessing trends and SO_2 concentrations in area-wide air quality.[10] Based on the fact that SO_2 emissions from residential fuel combustion consists of 73% of all SO_2 emissions in the NEI, EPA believes it is reasonable to evaluate any regulations intended to address fuel oil, specifically with respect to the sulfur content in order to determine interstate transport impacts from the category of ''other'' sources of fuel combustion.

Our current implementation strategy for the 2010 primary SO_2 NAAQS includes the flexibility to characterize air quality for stationary sources via either data collected at ambient air quality monitors sited to capture the points of maximum concentration, or air dispersion modeling.[11] Our assessment of SO_2 emissions from fuel combustion categories in the state and their potential on neighboring states are informed by all available data at the time of this rulemaking, and include: SO_2 ambient air quality; SO_2 emissions and SO_2 emissions trends; SIP-approved SO_2 regulations and permitting requirements; available air dispersion modeling; and, other SIP-approved or Federally promulgated regulations which may yield reductions of SO_2. This notice describes EPA's evaluation of Connecticut's May 30, 2013 infrastructure SIP submission to satisfy the requirements of CAA section 110(a)(2)(D)(i)(I).[12]

C. Prong 1 Analysis—Significant Contribution to Nonattainment

Prong 1 of the good neighbor provision requires state plans to prohibit emissions that will significantly contribute to nonattainment of a NAAQS in another state. In order to evaluate Connecticut's satisfaction of prong 1, EPA evaluated the state's SIP submission with respect to the following four factors: (1) SO_2 ambient air quality and emissions trends for Connecticut and neighboring states; (2) potential ambient impacts of SO_2 emissions from certain facilities in Connecticut on neighboring states based on available air dispersion modeling results; (3) SIP-approved regulations specific to SO_2 emissions and permit requirements; and (4) other SIP-approved or Federally enforceable regulations that, while not directly intended to address or reduce SO_2 emissions, may yield reductions of the pollutant. A detailed discussion of each of these factors is below.

1. SO_2 Emissions Trends

Connecticut's infrastructure SIP submission refers to EPA's previous designation efforts for the 2010 SO_2 NAAQS. In particular, Connecticut explains that on February 7, 2013, EPA transmitted a letter to the state observing that, based on ambient air quality data collected between 2009 and 2011, no monitored violations of the 2010 SO_2 NAAQS had been recorded in Connecticut.[13] Additionally, the state references a technical support document it submitted with its SIP titled, ''Technical Justification to Support a Designation of Attainment of the 1-hour Sulfur Dioxide (SO_2) NAAQS for Connecticut'' (hereafter referred to as the Technical Justification), which includes state-specific information about ambient monitoring data, large sources of SO_2, and air dispersion modeling.[14] Where applicable, supporting information from the Technical Justification will be referenced in the discussions below.

As noted above, EPA's approach for addressing the interstate transport of SO_2 in Connecticut is based upon emissions from fuel combustion at electric utilities, industrial sources, and residential heating. As part of the Technical Justification document, Connecticut observed that, in accordance with the most recently available designations guidance at the time,[15] there were four facilities (all electric utilities) in Connecticut with reported actual emissions greater than or equal to 100 tons per year (tpy) of SO_2 in any given year between 2009 and 2011. The four facilities and each facility's maximum SO_2 emissions in

[9] The ''other'' category of fuel combustion in Connecticut is comprised almost entirely of residential heating through fuel oil combustion.

[10] EPA recognizes in Appendix A.1 titled, ''AERMOD (AMS/EPA Regulatory Model)—'' of appendix W to 40 CFR part 51 that the model is appropriate for predicting SO_2 up to 50 kilometers.

[11] *https://www.epa.gov/so2-pollution/2010-1-hour-sulfur-dioxide-so2-primary-national-ambient-air-quality-standards-naaqs.*

[12] EPA notes that the evaluation of other states' satisfaction of section 110(a)(2)(D)(i)(I) for the 2010 SO_2 NAAQS can be informed by similar factors found in this proposed rulemaking, but may not be identical to the approach taken in this or any future rulemaking for Connecticut, depending on available information and state-specific circumstances.

[13] On August 5, 2013, EPA promulgated final nonattainment designations for 29 areas in 16 states in which monitors had recorded violations of the 2010 SO_2 NAAQS, based on data from 2009–2011. See 78 FR 47191. As Connecticut contained no such areas, no areas in Connecticut were designated in that action. The EPA is now subject to a court order to complete designations under the NAAQS for the rest of the nation, including Connecticut. However, as of the date of this notice EPA has not designated any areas in Connecticut under the 2010 SO_2 NAAQS.

[14] See *http://www.ct.gov/deep/lib/deep/air/so2/so2_designation_tsd_final_13mar2013.pdf.*

[15] March 24, 2011 guidance document titled, ''Area Designations for the 2010 Revised Primary Sulfur Dioxide National Ambient Air Quality Standards.'' *See, e.g. http://dnr.wi.gov/topic/AirQuality/documents/SO2DesignationsGuidance2011.pdf.*

any one year between 2009 and 2011 are presented in the table below.

TABLE 2—CONNECTICUT FACILITIES WITH EMISSIONS IN ANY SINGLE YEAR BETWEEN 2009–2011 EXCEEDING 100 TONS PER YEAR (tpy), AS PROVIDED IN THE STATE'S TECHNICAL JUSTIFICATION

Facility name	Highest yearly SO_2 emissions (tpy) between 2009 and 2011 (state point source inventory)
Middletown Power	235.2
Norwalk Power*	489.0
PSEG Power New Haven	216.9
PSEG Power BPT Harbor	2,974.6
Total	3,915.7

*Norwalk Power is included in this summary because it was part of the state's Technical Justification. The facility was deactivated on June 1, 2013, and the permit was officially revoked in November 2013.

While the information in Table 2 provides the highest yearly SO_2 emissions between 2009 and 2011 based on the state point source inventory, an emissions summary for all electric utilities within the state subject to the federal Acid Rain Program will help determine whether the emissions from the facilities above can be relied upon as a general indicator of state-wide SO_2 emissions from all electric utilities. Data for this purpose can be found in the most recent EPA Air Markets Program Data (2016 AMPD).[16] The 2016 AMPD is an application that provides both current and historical data collected as part of EPA's emissions trading programs. A summary of all 2016 SO_2 emissions from electric utilities in Connecticut subject to the Acid Rain Program is below.

TABLE 3—2016 AMPD DATA FOR ALL CONNECTICUT ELECTRIC UTILITIES IN TONS PER YEAR (tpy)

Facility name	2016 AMPD data
PSEG Power BPT Harbor	238.8
Middletown Power	29.8
PSEG Power New Haven	29.3
Montville Station	26.1
Lake Road Generating Company	11.9
Kleen Energy Systems Project	8.5
Bridgeport Energy	7.8
Milford Power Company, LLC	6.9
Waterbury Generation	1.3
Wallingford Energy, LLC	0.6
Devon	0.3
Capitol District Energy Center	0.3
Alfred L Pierce Generating Station	0.0
Total	361.6

Table 3 provides several key pieces of information. First, the emissions from the still-operational facilities referenced in the state's Technical Justification have decreased significantly compared to the historical high level during the 2009 to 2011 time period. The combined emissions from PSEG Power BPT Harbor, PSEG Power New Haven, and Middletown Power were 3,426.7 tons according to the state point source inventory during the highest year between for 2009–2011, whereas the 2016 AMPD data indicate that the combined emissions from these same facilities is slightly less than 300 tons. Additionally, the combined emissions from the still operational facilities referenced in the Technical Justification from the state point source inventory between 2009–2011 is significantly higher than the combined 2016 AMPD emissions from all electric utilities, indicating that the overall SO_2 emissions from large sources (such as electric generating units) within Connecticut has decreased substantially between 2009 and the time of this rulemaking. Lastly, according to the 2016 AMPD, SO_2 emissions from the still-operational facilities referenced in the Technical Justification account for the vast majority of the SO_2 emissions from all electric utilities in the state; therefore, EPA believes that any assessment of SO_2 emissions from electric utilities in the state may be informed by the emissions from PSEG Power BPT Harbor, PSEG Power New Haven, and Middletown Power. As previously noted, Norwalk Power was deactivated on June 1, 2013, and the permit for the facility was officially revoked in November 2013.

2. SO_2 Ambient Air Quality

Data collected at ambient air quality monitors indicate the monitored values of SO_2 in the state have remained below the NAAQS. Relevant data from AQS Design Value (DV)[17] reports for recent and complete 3-year periods are summarized in the table below.

TABLE 4—TREND IN SO_2 DESIGN VALUES IN ppb FOR AQS MONITORS IN CONNECTICUT

AQS monitor site	Monitor location	2009–2011 DV (ppb)	2011–2013 DV (ppb)	2013–2015 DV (ppb)
09–001–0012	Edison School, Bridgeport	20	14	9
09–005–0005	Mohawk Mountain, Cornwall	(*)	7	5

[16] *https://ampd.epa.gov/ampd/.*

[17] A ''Design Value'' is a statistic that describes the air quality status of a given location relative to the level of the NAAQS. The interpretation of the primary 2010 SO_2 NAAQS (set at 75 parts per billion (ppb)) including the data handling conventions and calculations necessary for determining compliance with the NAAQS can be found in appendix T to 40 CFR part 50.

TABLE 4—TREND IN SO_2 DESIGN VALUES IN ppb FOR AQS MONITORS IN CONNECTICUT—Continued

AQS monitor site	Monitor location	2009–2011 DV (ppb)	2011–2013 DV (ppb)	2013–2015 DV (ppb)
09–009–0027	Criscuolo Park, New Haven	36	23	13

*The design value for this site is invalid due to incomplete data for these years and not for use in comparison to the NAAQS.

As shown in Table 4 above, the DVs for the two monitoring sites for which there are complete data for all years between 2009 and 2015 have decreased between each of the 3-year blocks shown in the table. The highest valid DV in Connecticut for 2013–2015 is 13 ppb, which is well below the NAAQS.

It is not known whether the monitors in Table 4 were sited to capture points of maximum impact from PSEG Power BPT Harbor, PSEG Power New Haven, and Middletown Power. The monitoring information, when considered alone, might not support a conclusion that the areas most impacted by these sources are attaining the NAAQS when considered in the context of the spatial scales defined in the background section of this rulemaking.

TABLE 5—DISTANCES BETWEEN STILL-OPERATIONAL ELECTRIC UTILITIES IN CONNECTICUT'S TECHNICAL JUSTIFICATION AND REGULATORY MONITORS WITH COMPLETE 2013–2015 DATA

Facility	Distance to closest AQS monitor in CT (km)	Spatial scale	2013–2015 DV (ppb)
PSEG Power BPT Harbor	3.2	Neighborhood	9
PSEG Power New Haven	1.5	Neighborhood	13
Middletown Power	37.5	Urban	13

Table 5 indicates that while the monitors closest to PSEG Power BPT Harbor (AQS Site ID 09–001–0012) and PSEG New Haven (AQS Site ID 09–009–0027) may not be sited in the area to capture points of maximum concentration from the facilities, the monitors are located in the neighborhood spatial scale in relation to the facilities, *i.e.,* emissions from stationary and point sources may under certain plume conditions, result in high SO_2 concentrations at this scale. Forty CFR part 58, appendix D, section 4.4.4(3) defines neighborhood scale as ''[t]he neighborhood scale would characterize air quality conditions throughout some relatively uniform land use areas with dimensions in the 0.5 to 4.0 kilometer range.'' The closest AQS monitor to Middletown Power with complete 2013–2015 data (AQS Site ID 09–009–0027) would be considered an urban scale monitor when compared to the location of the facility. The most recently available DVs based on 2013–2015 at all three monitors are well below the NAAQS.

However, the absence of a violating ambient air quality monitor within the state is insufficient to demonstrate that Connecticut has met its interstate transport obligation. While the decreasing DVs and their associated spatial scales support the notion that emissions originating within Connecticut are not contributing to a violation of the NAAQS within the state, prong 1 of section 110(a)(2)(D)(i)(I) specifically addresses the effects that sources within Connecticut have on air quality in neighboring states. Therefore, an evaluation and analysis of SO_2 emissions data from facilities within the state, together with the potential effects of such emissions on ambient data in neighboring states, is appropriate.

As previously discussed, EPA's definitions of spatial scales for SO_2 monitoring networks indicate that the maximum impacts from stationary sources can be expected within 4 kilometers of such sources, and that distances up to 50 kilometers would be useful for assessing trends and concentrations in area-wide air quality. The only nearby state within 50 km of any of the currently operating facilities in Connecticut is New York; all other areas within 50 km of these facilities are contained within Connecticut's borders.[18] As a result, no further analysis of the other neighboring states (Rhode Island and Massachusetts) or any other states is necessary for assessing the impacts of the interstate transport of SO_2 pollution from these facilities.

[18] New Jersey is within 50 km of Norwalk Power, but as previously mentioned, the facility was deactivated in June 2013, and its permit was revoked in November 2013. As a result, its current and future emissions are effectively zero and EPA does not believe that its emissions are contributing to a violation of the NAAQS in New Jersey.

3. SO_2 Air Dispersion Modeling

As discussed in the Section I of this rulemaking, EPA's current approach for implementing the 2010 primary SO_2 NAAQS provides the flexibility to characterize air quality from stationary sources through either air dispersion modeling or ambient air quality monitors that have been sited to capture the points of maximum concentration. EPA observes that Appendix A.1 titled, ''AERMOD (AMS/EPA Regulatory Model)'' of appendix W to 40 CFR part 51 is appropriate for SO_2 in instances where transport distances over which steady-state assumptions are appropriate, up to 50 kilometers. While not written specifically to address interstate transport, the 50 kilometer range in AERMOD aligns with the urban monitoring scale, and thus, EPA believes that the use of AERMOD provides a reliable indication of air quality for transport purposes. In order to further analyze the impact of certain electric utilities in Connecticut on air quality in neighboring states, the state performed air dispersion modeling using emissions data from 2009–2011, which reflects emissions from PSEG Power Bridgeport Harbor, PSEG Power New Haven, and Middletown Power, as well as the now deactivated Norwalk Power Station. As previously discussed, each of these facilities emitted at least 100 tpy of SO_2 or more in any given year between 2009 and 2011, and based on the 2016 AMPD, the emissions from the

still-operational facilities account for almost 80% of the total SO_2 emissions from all electric utilities in Connecticut subject to the Acid Rain Program.

The state performed the air dispersion modeling using the most recent version of the AERMOD modeling system available at the time, which included the dispersion model AERMOD (version 12345), along with its pre-processor modules AERMINUTE, AERMET, AERSURFACE, and AERMAP. A discussion of the state's procedures and results follows below, with references to EPA's ''SO_2 NAAQS Designations Modeling Technical Assistance Document'' (Modeling TAD), most recently updated in August 2016, as appropriate. The EPA observes that while the Modeling TAD is intended to assist states and other interested parties in characterizing local air quality for designations purposes, these same methodologies can be used to determine whether SO_2 emissions from electric utilities in Connecticut are leading to exceedances of the NAAQS in a neighboring state. As a result of the localized dispersion pattern and ranges of expected maximum impacts of SO_2 emissions from stationary sources in the context of the 2010 primary NAAQS along with our current flexibility to characterize air quality through either properly sited monitors or air dispersion monitoring, EPA believes that the analysis performed by Connecticut for designations purposes is also adequate to address interstate transport requirements.

a. Emission Rates and Modeling Domain

Individual unit emission rates modeled at the four facilities reflected either the allowable hourly rates based on the maximum firing rate of the unit or hourly continuous emissions monitoring (CEM) data correlated with hourly meteorological data. In other words, Connecticut modeled actual emissions for units at each facility based on CEMs data where it was available, and modeled the allowable hourly rates for units at each facility where CEMs data was not available. EPA believes the use of actual and allowable emissions adequately represented operating conditions at the time of Connecticut's overall infrastructure SIP submission, and therefore the modeled concentrations adequately characterized air quality with respect to emissions from the four facilities.

Furthermore, the overall SO_2 emissions levels in Connecticut from these four sources are declining, and the higher emissions levels reflected in the state's modeling analysis represent a conservative estimate of future emissions from these facilities. In particular, EPA expects continued lower emissions from these four facilities as a result of Norwalk Power's closure and permit revocation, along with the measures contained in Regulations of Connecticut State Agencies (RCSA) Section 22a–174–19a [19] intended to limit SO_2 emissions within the state. The EPA believes that the 2016 AMPD data presented in Table 3, which shows an overall decrease at each facility, adequately characterizes the extent of these sources' contribution to future air quality in the area.[20]

To develop the receptor networks for the modeling domains, the state used the AERMOD terrain pre-processor AERMAP. EPA's recommended procedure for characterizing an area by prevalent land use is based on evaluating the dispersion environment within 3 kilometers of the facility. According to EPA's modeling guidelines contained in documents such as the Modeling TAD, rural dispersion coefficients are to be used in the dispersion modeling analysis if more than 50% of the area within a 3 km radius of the facility is classified as rural. Conversely, if more than 50% of the area is urban, urban dispersion coefficients should be used in the modeling analysis. Consistent with these guidelines, the state modeled three of the facilities using urban dispersion, *i.e.,* PSEG Power New Haven, PSEG Power BPT Harbor, and Norwalk Power, and one facility using rural dispersion, *i.e.,* Middletown.

The modeling domain for each facility consisted of a Cartesian grid centered around the facility with each side measuring 100 km, *i.e.,* 50 km from the center of the grid in length. Consistent with the best practices contained in the Modeling TAD, the state's receptors for modeling were placed as follows: 250 meter spacing from the center to 2 km from the center of the grid; 500 meter spacing from 2 km to 10 km from the center of the grid; 1 km spacing from 10 km to 20 km from the center of the grid; and, 2 km spacing from 20 km to 50 km from the center of the grid. The extent of each facility's domain into counties in New York and New Jersey is summarized in the table below.

TABLE 6—NEIGHBORING STATES AND COUNTIES INCLUDED IN THE MODELING DOMAINS OF CERTAIN CONNECTICUT FACILITIES

[Y indicates the county is included in that domain]

Extent of modeling domain county (state)	Middletown Power	PSEG Power New Haven	PSEG Power BPT Harbor	Norwalk Power
Bergen (New Jersey)				Y
Bronx (New York)		Y		Y
Dutchess (New York)		Y		Y
Hudson (New Jersey)				Y
Kings (New York)				Y
Nassau (New York)		Y	Y	Y
New York (New York)				Y
Orange (New York)				Y
Putnam (New York)		Y		Y
Queens (New York)		Y		Y
Richmond (New York)				Y
Rockland (New York)				Y
Suffolk (New York)	Y	Y	Y	Y
Ulster (New York)				Y

[19] EPA published the final rulemaking approving RCSA Section 22a–174–19a on July 10, 2014 (79 FR 39322).

[20] The Modeling TAD notes that the most recent three years of actual emissions should be used, and as part of this analysis CT used 2009–2011 emissions which are significantly higher than the 2016AMPD actual emissions data.

TABLE 6—NEIGHBORING STATES AND COUNTIES INCLUDED IN THE MODELING DOMAINS OF CERTAIN CONNECTICUT FACILITIES—Continued

[Y indicates the county is included in that domain]

Extent of modeling domain county (state)	Middletown Power	PSEG Power New Haven	PSEG Power BPT Harbor	Norwalk Power
Westchester (New York)	.....	Y	.....	Y

b. Meteorology and Background Air Quality

As part of its technical justification for the designation process, Connecticut provided EPA with access to AERMOD-ready five-year meteorological data processed through AERMET. These datasets were generated from National Weather Service Automated Surface Observing System (ASOS) stations in the state and upper air sounding data at either Albany, New York or Brookhaven, New York. The state used Integrated Surface Hourly Data (ISHD for surface observations), as well as archived one-minute data pre-processed through AERMINUTE, which uses the archived one-minute wind data to develop hourly average wind speed and wind direction for use in AERMET. The meteorological databases used by the state for each of the 4 facilities are summarized in the table below.

TABLE 7—METEOROLOGICAL DATABASES FOR EACH FACILITY/MODELING DOMAIN PROVIDED IN CONNECTICUT'S TECHNICAL JUSTIFICATION FOR THE DESIGNATION PROCESS

Facility/modeling domain	Meteorological database (2007–2011)
Middletown Power	Surface: Bradley Airport Upper Air: Albany, New York
Norwalk Power PSEG Power New Haven PSEG Power BPT Harbor	Surface: Sikorsky Airport Upper Air: Brookhaven

The EPA notes that, consistent with the Modeling TAD, the most recent years of meteorological data at the time were used in the state's modeling.

Consistent with EPA's March 1, 2011 memorandum titled, ''Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard,'' Connecticut developed background values from hourly SO_2 levels measured by Federal Reference Method (FRM) equivalent monitors located throughout the state. The FRM monitors corresponding to each of the facilities' modeling domain are listed in the table below.

TABLE 8—BACKGROUND AIR QUALITY MONITORING SITES FOR EACH FACILITY/MODELING DOMAIN PROVIDED IN CONNECTICUT'S TECHNICAL JUSTIFICATION FOR THE DESIGNATION PROCESS

AQS monitor site for background air quality	Monitor location for background air quality	Corresponding facility/modeling domain
09–001–0012	Edison School, Bridgeport	Middletown Power
09–003–1003	McAuliffe Park, East Hartford	Norwalk Power and PSEG Power BPT Harbor
09–009–0027	Criscuolo Park, New Haven	PSEG Power New Haven

In the development of background concentrations, the state adopted what is referred to as a ''Tier II'' approach: A multi-year average of 2nd high measured 1-hour concentrations of each season and hour-of-day combinations from 2009–2011. These concentrations represent SO_2 emissions from out-of-state transport, as well as local/state point, area, and mobile source emissions that were not explicitly modeled. These background concentrations were included in Connecticut's final AERMOD modeling results for the four facilities emitting at or above 100 tpy in any given year between 2009 and 2011. The ''Tier II'' approach adopted by the state for incorporating background concentration into the total modeled impacts from the four facilities is consistent with EPA guidelines. Furthermore, EPA notes that the emissions from any un-modeled large emissions sources which emit SO_2 through fuel combustion can be adequately represented through the calculated background concentrations because of their low emissions. As shown in Table 3, the remaining SO_2 emissions from all electric utilities in Connecticut subject to the Acid Rain Program sum to only 63.7 tons, and the largest of these facilities, Montville Station (26.1 tpy), is approximately 70 kilometers away from the closest modeled facility. Based on these low emissions and distance from any of the modeled domains, EPA does not believe that emissions from Montville Station have the potential to alter the concentration gradient around the modeled sources. In a similar manner, EPA does not believe that the remaining 37.6 tpy of SO_2 from the remaining electric utilities subject to the Acid Rain Program, ranging from just 11.9 tons per year to almost 0 tons per year, have the potential to alter the concentration gradient around the modeled sources. While data is not available for any year after the 2014 NEI for SO_2 emissions as

a result of fuel combustion at industrial processes, EPA believes that based on all available information, these emissions do not have the potential to alter the concentration gradient around the modeled sources, and can therefore be adequately represented as background concentration. Specifically, the 2014 NEI lists the sum of these industrial processes with fuel combustion leading to SO_2 emissions as approximately 759 tons. See Table 1. EPA has confirmed these industrial processes are not centralized in such a manner that all 759 tons are concentrated in one area.

i. Interpretation of Modeling Results

Due to the proximity between Norwalk Power, PSEG Power BPT Harbor, and PSEG Power New Haven, the emissions units from all three facilities were included in each facility's modeling domain. Middletown Power emissions were modeled separately in the Middletown Power domain, and no other emission units were included in the Middletown Power domain. The modeling results, including the impacts of background concentration, are summarized in the table below.

TABLE 9—AERMOD MODELING RESULTS ACCOUNTING FOR BACKGROUND CONCENTRATION FOR FACILITIES IN CONNECTICUT EMITTING AT LEAST 100 tpy OF SO_2 IN ANY GIVEN YEAR BETWEEN 2009 AND 2011 AND THE CORRESPONDING PERCENTAGE OF THE 2010 SO_2 NAAQS

Facility/domain	4th high average 1-hour SO_2 concentrations in micrograms per cubic meter ($\mu g/m^3$) *	Percent of 2010 SO_2 NAAQS (75 ppb or 196.0 $\mu g/m^3$)
Middletown Power	89.7	45.7
Norwalk Power	88.1	44.9
PSEG Power New Haven	87.5	44.6
PSEG Power BPT Harbor	159.0	81.1

* It should be noted that these modeled results are expressed in $\mu g/m^3$; the 2010 SO_2 NAAQS set at 75 ppb is approximately equivalent to 196 $\mu g/m^3$

Table 9 above shows that the highest modeled concentration of SO_2 for areas within the modeling domain (including areas outside of Connecticut) of the four facilities in Connecticut emitting at least 100 tpy of SO_2 in any given year between 2009 and 2011 is 159 $\mu g/m^3$, which corresponds to slightly over 80% of the 2010 SO_2 NAAQS (set at 75 ppb or approximately 196 $\mu g/m^3$). This value was modeled at the PSEG Power BPT Harbor domain, and can be attributed to the higher modeled emissions rate input than any of the other three facilities. As displayed above in Table 2, the PSEG Power BPT Harbor facility had the highest SO_2 emissions according to the state provided point source inventory, and the facility also has the highest SO_2 emissions according to the 2014 NEI.

As noted earlier, the emissions from all facility units except for Middletown Power were used in the modeling domains for Norwalk Power, PSEG Power BPT Harbor, and PSEG Power New Haven. The modeling results consistently demonstrate that the points of maximum impact for these three facilities, all of which are below the level of the 2010 SO_2 NAAQS, are located within 2.5 km of the center of each facility and are not located in neighboring states. Furthermore, the modeled concentrations of SO_2 decrease dramatically to levels under 80 $\mu g/m^3$ (approximately 30.5 ppb, or 41% of the NAAQS) at a distance of no more than 10 km away from the center of each facility; therefore, the cumulative impacts from the three facilities' SO_2 emissions are not expected to contribute to a violation of the 2010 SO_2 NAAQS. It should also be noted that the modeled concentrations at each of these modeling domains are potentially overestimating current impacts from the facilities because of the permanent closure and permit revocation of Norwalk Power, which occurred after Connecticut developed its Technical Justification for this submission.[21]

The modeled results for Middletown Power indicate the maximum concentration of 89.7 $\mu g/m^3$, or approximately 34 ppb (45% of the NAAQS), is expected no more than 2.5 km from the center of the facility and are not located in neighboring states. Furthermore, modeled concentrations where the Middletown Power domain intersects with that of the closest facility (PSEG Power New Haven) specifically in areas encompassed by the town of North Branford, would be at most 125 $\mu g/m^3$, or approximately 48 ppb (64% of the NAAQS). EPA believes that this cumulative value potentially overestimates the impacts of the facilities' emissions at the intersection of the domains because this value was obtained by adding the highest values in the range of concentrations corresponding to the modeling results at the intersection of the domains. As a result, EPA believes that the SO_2 emissions from Middletown Power, when considered alone or in aggregate with the SO_2 emissions from the PSEG Power North Haven domain, are not expected to contribute to a violation of the 2010 SO_2 NAAQS either within or outside of the modeling domain.

ii. Modeled Results and Impacts on Neighboring States

EPA believes that based on all available information at the time of this rulemaking, including the Technical Justification provided by the state, a reasonable way to estimate the impacts from SO_2 emissions as a result of electric utility or industrial fuel combustion originating in Connecticut on its neighboring states is to evaluate the following two factors in tandem: (1) The most recent and highest DV based on data collected from ambient air quality monitors in any county included in the individual domains for the four sources in Connecticut, *i.e.,* the counties listed in Table 6; and, (2) the modeled concentrations from each of the facilities in the areas closest to the neighboring states. The approach described below combines the modeled impacts from the electric utilities and industrial processes in Connecticut without a background concentration with a reasonable background concentration in neighboring states to yield a final estimated impact that reflects projected air quality in those

[21] Connecticut's technical justification was prepared and submitted to EPA in March, 2013, and as previously noted, EPA published its final approval of RCSA Section 22a–174–19a on July 10, 2014 (79 FR 39322).

neighboring states. The resultant calculated impacts support the notion that based on all available information, emissions from facilities in Connecticut are not contributing significantly to a violation of the NAAQS in neighboring states under a worst case scenario analysis.

As noted in the discussion above, the modeled concentrations of SO_2 originating from Norwalk Power, PSEG Power BPT Harbor, and PSEG Power New Haven (and representative of all electric utilities and industrial processes in Connecticut that emit SO_2 as a result of fuel combustion) dramatically decrease after 2.5 km from the center of each facility, and at a distance of no more than 10 km from the center of each of these facilities the modeled concentrations are under 30.5 ppb. All emissions from the three sources were included in each individual facility's modeling domain. Therefore, EPA believes that 30.5 ppb is a reasonable value that represents the worst-case potential combined contribution from any electric utility or industrial process in Connecticut which emits SO_2 via fuel combustion on any neighboring county included in the modeling domains, particularly because Norwalk Power has ceased operation and its permit has been revoked following Connecticut's infrastructure SIP submission. This value includes background concentrations of SO_2 calculated by Connecticut using a Tier II approach, which consisted of the multi-year average of 2nd high measured 1-hour concentrations for each season and hour-of-day combination from 2009–2011. Although Connecticut's Technical Justification did not include the numerical background concentration value for each of the modeling domains, EPA believes that a reasonable background air quality concentration for any of the domains can be estimated using a Tier Ib approach, which consists of the 1-hour DV for the most recent 3-year period from ambient air quality monitors located in Connecticut. The lowest valid DV at any of the monitors listed above (AQS Site ID 09–001–0012) in Table 8 based on ambient air quality data collected between 2013 and 2015 is 9 ppb. The worst-case potential combined contribution from the combined electric utilities and industrial processes on any neighboring county included in the modeling domain, not including background concentrations of SO_2, can therefore be estimated to be 21.5 ppb. Additionally, this 21.5 ppb value can be used to estimate the worst case impacts from these sources on any neighboring state, without taking into account the background concentrations of SO_2 in those neighboring states.

In order to estimate the worst case combined SO_2 impacts from electric utilities and industrial processes in Connecticut on any neighboring state with an appropriate background concentration, EPA added the 21.5 ppb described above to the highest DV in each neighboring county included in the modeling domains for Norwalk Power, PSEG Power BPT Harbor, and PSEG Power New Haven. It should be noted that the DV in each neighboring county included in the modeling domains already includes a monitored background concentration of SO_2, and therefore adding a worst case potential combined contribution from the 3 sources of 21.5 ppb using the process described above, instead of 30.5 ppb from the state's Technical Justification, eliminates the double counting of background SO_2 concentrations:

TABLE 10—WORST CASE COMBINED SO_2 IMPACTS FROM NORWALK POWER, PSEG POWER BPT HARBOR, AND PSEG POWER NEW HAVEN ON NEIGHBORING STATES

Neighboring county (state)	2013–2015 county level DV (ppb)	Superimposed worst case SO_2 impact (ppb)
Bergen (New Jersey)	No monitors	[b] 37.5
Bronx (New York)	16	37.5
Dutchess (New York)	5	26.5
Hudson (New Jersey)	7	28.5
Kings (New York)	No monitors	[b] 37.5
Nassau (New York)	Incomplete data	[a] 37.5
New York (New York)	No monitors	[b] 37.5
Orange (New York)	No monitors	[b] 37.5
Putnam (New York)	6	27.5
Queens (New York)	11	32.5
Richmond (New York)	No monitors	[b] 37.5
Rockland (New York)	No monitors	[b] 37.5
Suffolk (New York)	Incomplete data	[a] 37.5
Ulster (New York)	No monitors	[b] 37.5
Westchester (New York)	No monitors	[b] 37.5

[a] The design values for these sites are invalid due to incomplete data for partial years between 2013 and 2015; therefore, the worst case SO_2 impacts were calculated by adding the highest DV for any county listed in the table to 21.5 ppb. The resulting worst case scenario is for illustrative purposes only.

[b] In the absence of ambient air quality monitors in the county, the worst case SO_2 impacts were calculated by adding the highest DV for any county in the state listed in the table to 21.5 ppb. The resulting worst case scenario is for illustrative purposes only.

As shown in Table 10, the estimated highest worst case SO_2 concentrations for all contributing sources, given background combined with all of the potential effects of transport from Norwalk Power, PSEG Power BPT Harbor, and PSEG Power New Haven (also representative of all electric utilities and industrial processes in Connecticut that emit SO_2 via fuel combustion) on neighboring states is no greater than 37.5 ppb, or approximately 50% of the NAAQS, and not contributing to a violation of the 2010 standard. This superimposed value includes a valid 2013–2015 DV (which is representative of background concentration) for the monitor in Bronx County, New York (AQS ID 36–005–0133), and modeled concentrations of SO_2 that represent the worst case currently and the upper bound for projected future emissions from all electric utilities and industrial processes in Connecticut that emit SO_2 through fuel combustion, one of which is no longer operating. After consideration of

these factors and based on all available information at the time of this rulemaking, and including an analysis of the worst case scenario including all relevant emissions sources, EPA does not believe that combined emissions from the two remaining operational facilities in Connecticut closest to New York and New Jersey, *i.e.,* PSEG Power BPT Harbor and PSEG Power New Haven, would contribute significantly to a violation of the 2010 SO_2 NAAQS anywhere in either New York or New Jersey.

In a similar manner for Middletown Power, EPA observes that the modeling domain for the facility extends only into a small portion of Suffolk County, New York; all other areas in the modeling domain are contained within Connecticut's borders. PSEG Power New Haven is the only other modeled source where the modeling domain intersects the portion of the modeling domain in New York from Middletown Power. As described earlier, the predicted modeled concentration of SO_2 at the intersection of the Middletown Power and the PSEG Power New Haven domains is no more than 48 ppb. Subtracting a reasonable estimate of background concentration of SO_2 via a Tier 1b approach using the 1-hour design value for the latest 3-year period, the predicted modeled concentration of SO_2 at the intersection of the two domains is 39 ppb. Therefore, the estimated worst case SO_2 impact on Suffolk County, New York that superimposes the modeled SO_2 concentrations from the intersection of the two modeling domains, and the 2013–2015 DV (which includes background) for Suffolk County, New York (AQS ID 36–103–0009) is 48 ppb, or approximately 64% of the NAAQS. EPA acknowledges that the 2013–2015 DV for Suffolk County of 9 ppb is not valid for comparison to the NAAQS due to an incomplete dataset. Available data reported into AQS from the monitor between 2013 and 2015 indicates that the highest 99th percentile 1-hour concentration of SO_2 was 10 ppb. Thus, an even more conservative estimate of the worst case SO_2 impact on Suffolk County, New York is 49 ppb, or approximately 65% of the NAAQS. Based on all available information at the time of this rulemaking, EPA therefore does not believe that sources or emissions activity originating from Middletown Power, when considered alone or along with those from PSEG Power New Haven, would contribute significantly to a violation of the 2010 SO_2 NAAQS in New York. Because the modeling results also adequately account for SO_2 emissions originating from fuel combustion at all other electric utilities and industrial process, EPA does not believe that such facilities would contribute significantly to a violation of the 2010 SO_2 NAAQS anywhere in New York.

With respect to the potential transport impacts from sources or emissions activity originating in Connecticut on the neighboring states of Rhode Island and Massachusetts, EPA reiterates that all other areas within 50 km of the currently operating sources modeled by the state are contained within Connecticut's borders. In addition, the design value for 2015 for all SO_2 monitors within Massachusetts and Rhode Island were below 75 ppb. The monitor with the highest design value in 2015 in either Rhode Island or Massachusetts was 28 ppb (37% of the standard) in Fall River, Massachusetts. As a result, no further analysis of these states is provided, nor does EPA believe that further analysis is needed to establish that SO_2 emissions originating in Connecticut as a result of fuel combustion from electric utilities or industrial processes do not significantly contribute to nonattainment of the 1-hour SO_2 NAAQS in those neighboring states.

4. SIP Approved Regulations Specific to SO_2 and Permitting Requirements

The state has various provisions and regulations to ensure that SO_2 emissions are not expected to substantially increase in the future. Notably, federally enforceable conditions contained in RCSA Section 22a–174–19a, ''Control of sulfur dioxide emissions from power plants and other large stationary sources of air pollution,''apply to emissions at the four facilities outlined in the state's Technical Justification as well as other sources of SO_2 emissions. Specifically, this SIP-approved regulation requires these four facilities, and some others such as fossil-fuel-fired boilers with a maximum heat input capacity of 250 MMBTU/hr or more, to limit their SO_2 emissions by either meeting an SO_2 emission limit of 0.33 lbs/MMBtu or limiting the amount of sulfur contained in any liquid or gas the facilities may burn to 0.3% sulfur by weight. The recently revised RSCA Section 22a–174–19b [22] will limit those stationary sources that are not subject to RSCA 22a–174–19a to combusting residual fuel oil with a sulfur content of 0.3% or less by weight and distillate fuel oil of 0.0015% or less by weight by July 1, 2018.

The 2014 NEI indicates the single largest, albeit diffuse, source category of SO_2 emissions from Connecticut is from fuel combustion for residential heating, in excess of 9,000 tons. To address SO_2 emissions originating from the combustion of residential heating, the state's Legislature adopted Connecticut General Statute Title 16a, Chapter 296, Section 16a–21a.[23] As of July 1, 2014 the sulfur content for home heating oil in Connecticut is 500 parts per million (ppm), or 0.05% by weight. The new limit of 15 ppm or 0.0015% by weight, which will be federally effective on July 1, 2018, represents a 97% reduction in emissions compared with allowable levels.

According to EPA's guidance ''Air Emission Factors and Quantification AP 42, Compilation of Air Pollutant Emission Factors'' Chapter 1.3 titled, ''Fuel Oil Combustion,'' [24] more than 95% of the sulfur in fuel is converted to SO_2. The Census Bureau estimates that in 2000 approximately 52.4% of the 1.3 million households in Connecticut relied on fuel oil as their heating fuel, or 681,200 households.[25] It is not uncommon for typical households in northeastern states such as Connecticut to use 800 gallons of fuel oil per season, and prior to July 1, 2014, the sulfur content in fuel oil in Connecticut ranged between 2,000–3,000 ppm, approximately six times the current limit. EPA's emission factor to determine the approximate amount of SO_2 per 1000 gallons of fuel oil is 142 $\times$ S, where S is the percent by weight of sulfur in fuel oil.[26] At 3,000 ppm, the percent by weight is 0.3, and therefore the amount of SO_2 produced by the combustion of 1000 gallons of fuel oil is approximately 42.6 pounds. This yields an approximate yearly mass amount SO_2 emissions, as a result of fuel oil combustion, of over 11,600 tons, which is consistent with the 2011 NEI data of 11,437 tons for home heating oil.

At the time of this proposed rulemaking, the maximum allowable sulfur content in fuel oil allowed by the Connecticut SIP is 0.05% by weight, which should yield estimated yearly SO_2 emissions of 1,900 tons from these diffuse emissions sources, which is substantially less than the 2011 NEI data. By 2018, the annual SO_2 emissions in Connecticut as a result of the 0.0015% maximum sulfur content in heating oil will be approximately 60 tons. While EPA does not currently have

[22] See 81 FR 33134 (May 25, 2016).

[23] See 81 FR 35636 (June 3, 2016).

[24] *https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s03.pdf.*

[25] *https://www.census.gov/hhes/www/housing/census/historic/fuels.html.*

[26] See EPA's guidance ''Air Emission Factors and Quantification AP 42, Compilation of Air Pollutant Emission Factors,'' page 1.3–12.

a way to quantify the impacts of multiple small sources of SO_2 (the current estimate is approximately 6 pounds of SO_2 per year per household that uses fuel oil) in neighboring states, the drastic decrease in the allowable sulfur content in fuel oil and the associated reductions in SO_2 emissions, combined with the diffuse nature of these emissions, make it unlikely that the current and future emissions from residential combustion of fuel oil are likely to lead to an exceedance of the NAAQS in a neighboring state. Specifically, by 2018, the yearly SO_2 emissions per household using fuel oil will drop to under 0.20 pounds per year.

Lastly, for the purposes of ensuring that SO_2 emissions at new or modified sources in Connecticut do not adversely impact air quality, the state's SIP-approved new source review (NSR) and prevention of significant deterioration (PSD) programs are contained in RCSA Section 22a–174–2a, ''Procedural Requirements for New Source Review and Title V Permitting'' and RCSA Section 22a–174–3a, ''Permit to Construct and Operate Stationary Sources.'' Both sets of regulations ensure that SO_2 emissions due to new facility construction or modifications at existing facilities will not adversely impact air quality in Connecticut or in neighboring states.

5. Other SIP-Approved or Federally Enforceable Regulations

In addition to the state's SIP-approved provisions that directly control emissions of SO_2, sources in Connecticut are also subject to additional requirements that will have the effect of further limiting SO_2 emissions. On September 24, 2013 (78 FR 58467), EPA published its final rulemaking approving Connecticut's request to re-designate the Connecticut portion of the New York-N. New Jersey-Long Island, NY–NJ–CT $PM_{2.5}$ nonattainment area to attainment. The controls and federally enforceable measures approved into the SIP were for the purposes of attaining the 1997 annual and 2006 24-hour $PM_{2.5}$ NAAQS. However, as part of state's re-designation request and consistent with the requirements of the CAA, Connecticut submitted SO_2 emissions projections for Fairfield and New Haven Counties, showing that SO_2 emissions in those counties are projected to decrease by more than 50% between 2007 and 2025 as a result of federal regulations and state regulations adopted into the Connecticut SIP. EPA expects similar reductions throughout the rest of the state following the state's adoption of a low sulfur fuel regulation that requires further reductions in the fuel oil sulfur content by July 1, 2018.[27]

In addition to the SIP-approved regulations in RCSA, EPA observes that facilities in Connecticut are also subject to the Federal requirements contained in regulations such as Mercury Air Toxic Standards, and the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. These regulations reduce acid gases, which includes reductions in SO_2 emissions.

6. Conclusion

As discussed in more detail above, EPA has considered the following information in evaluating the state's satisfaction of the requirements of prong 1 of CAA section 110(a)(2)(D)(i)(I):

(1) EPA has not identified any current air quality problems in nearby areas in the adjacent states (Massachusetts, Rhode Island, and New York) relative to the 2010 SO_2 NAAQS;

(2) Connecticut demonstrated using air dispersion modeling, that its largest stationary source SO_2 emitters are not expected to cause SO_2 air quality problems in other states relative to the 2010 SO_2 NAAQS;

(3) Past and projected future emission trends demonstrate that such air quality problems in other nearby states are unlikely to occur due to sources in Connecticut; and

(4) Current SIP provisions and other federal programs will further reduce SO_2 emissions from sources within Connecticut.

Based on the analysis provided by the state in its SIP submission and based on each of the factors listed above, EPA proposes to find that that sources or emissions activity within the state will not contribute significantly to nonattainment of the 2010 SO_2 NAAQS in any other state.

D. Prong 2 Analysis—Interference With Maintenance of the NAAQS

Prong 2 of the good neighbor provision requires state plans to prohibit emissions that will interfere with maintenance of a NAAQS in another state. Given the continuing trend of decreased emissions from sources within Connecticut, EPA believes that reasonable criteria to ensure that sources or emissions activity originating within Connecticut do not interfere with its neighboring states' ability to maintain the NAAQS consists of evaluating whether these decreases in emissions can be maintained over time.

Table 11 below summarizes the SO_2 emissions data for the period of time between 2000 and 2015 for the four facilities in Connecticut emitting at least 100 tpy of SO_2 in any given year between 2009 and 2011. These facilities were chosen by the state in its analysis and Technical Justification because they were the only facilities to be emitting greater than 100 tons per year of SO_2 at the time of the state's submission.

TABLE 11—TREND IN SO_2 EMISSIONS IN TONS PER YEAR (tpy) FOR THE FOUR CONNECTICUT ELECTRIC UTILITIES

Facility	2000	2005	2010	2015
Middletown Power	4,396	1,298	164	147
Norwalk Power*	6,759	1,001	140	0
PSEG Power New Haven	9,256	1,445	257	154
PSEG Power BPT Harbor	9,220	2,831	1,273	707
Total	29,631	6,574	1,833	1,265

The data shows SO_2 emissions from these four facilities have decreased substantially over time, with one facility, Norwalk Power, ceasing operations in June of 2013 and having its permit permanently revoked in November 2013. A number of factors are involved that caused this decrease in emissions, including the effective date of RSCA 22a–174–19a (December 28, 2000) and the change in capacity factors over time due to increased usage of

[27] The reductions are due to a supplement to Connecticut's Regional Haze Plan. See 81 FR 33134 (May 25, 2016).

natural gas to generate electricity. The EPA believes that since actual SO_2 emissions from the facilities currently operating in Connecticut have decreased between 2000 and 2015, this trend is not expected to interfere with the neighboring states' ability to maintain the 2010 SO_2 NAAQS.

EPA expects SO_2 from sources other than the four identified electric generating units will be lower in the future. In 2014, the state adopted lower sulfur-in-fuel limits for stationary sources that are not subject to RSCA 22a–174–19a. These new limits are codified in RSCA 22a–174–19b, which as noted above, were approved into the SIP in 2016 as part of Connecticut's regional haze plan. The sulfur-in-fuel limits contained in RSCA 22a–174–19b will limit these stationary sources that are not subject to RSCA 22a–174–19a to combusting residual fuel oil with a sulfur content of 0.3% or less by weight and distillate fuel oil of 0.0015% or less by weight will take effect on July 1, 2018.

Significant reductions from the largest category of SO_2 emissions in Connecticut, home heating oil, will also continue into the future. According to the NEI, there already was a reduction of SO_2 emissions from this source category of over 3,000 tons between 2011 and 2014. Further reductions will occur as the sulfur-in-fuel limit for home heating oil was lowered to 0.05% by weight on July 1, 2014, therefore only impacting half of the heating season in 2014, and an even more restrictive limit of 0.0015% by weight on July 1, 2018.

Lastly, any future large sources of SO_2 emissions will be addressed by Connecticut's SIP-approved Prevention of Significant Deterioration (PSD) program. Future minor sources with SO_2 emissions of 15 tons but less than the PSD thresholds will be addressed by the state's minor new source review permit program. The permitting regulations contained within these programs are expected to ensure that ambient concentrations of SO_2 in Massachusetts, New York, New Jersey, and Rhode Island are not exceeded as a result of new facility construction or modification originating in Connecticut.

It is worth noting air quality trends for concentrations of SO_2 in the Northeastern United States.[28] This region has experienced a 77% decrease in the annual 99th percentile of daily maximum 1-hour averages between 2000 and 2015 based on 46 monitoring sites, and the most recently available data for 2015 indicates that the mean value at these sites was 17.4 ppb, or less than 25% of the NAAQS. When this trend is evaluated alongside the monitored SO_2 concentrations within the state of Connecticut as well as the SO_2 concentrations recorded at monitors in Massachusetts, New York, and Rhode Island, EPA does not believe that sources or emissions activity from within Connecticut are significantly different than the overall decreasing monitored SO_2 concentration trend in the Northeast region. As a result, EPA finds it unlikely that sources or emissions activity from within Connecticut will interfere with other states' ability to maintain the 2010 SO_2 NAAQS.

Based on each of factors contained in the maintenance analysis, EPA proposes to find the sources or emissions activity within the state will not interfere with maintenance of the 2010 SO_2 NAAQS in any other state.

IV. Proposed Aaction

In light of the above analysis, EPA is proposing to approve Connecticut's infrastructure submittal for the 2010 SO_2 NAAQS as it pertains to section 110(a)(2)(D)(i)(I) of the CAA. EPA is soliciting public comments on the issues discussed in this notice. These comments will be considered before taking final action. Interested parties may participate in the Federal rulemaking procedure by submitting written comments to EPA New England Regional Office listed in the **ADDRESSES** section of this **Federal Register** or by submitting comments electronically, by mail, or through hand delivery/courier following the directions in the **ADDRESSES** section of this **Federal Register**.

V. Statutory and Executive Order Reviews

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

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

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

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Sulfur oxides.

Dated: March 16, 2017.

Deborah A. Szaro,

Acting Regional Administrator, EPA New England.

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[28] See *https://www.epa.gov/air-trends/sulfur-dioxide-trends.*