



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R10-OAR-2016-0590; FRL-10009-70-Region 10]

Air Plan Approval; WA; Interstate Transport Requirements for the 2010 Sulfur Dioxide National Ambient Air Quality Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve the State Implementation Plan (SIP) submission from the State of Washington (Washington) demonstrating that the SIP meets certain Clean Air Act (CAA) interstate transport requirements for the 2010 1-hour Sulfur Dioxide (SO₂) National Ambient Air Quality Standards (NAAQS). In this action, EPA is proposing to determine that emissions from sources in Washington will not contribute significantly to nonattainment or interfere with maintenance of the 2010 SO₂ NAAQS in any other state. Therefore, EPA is proposing to approve Washington's February 7, 2018 SIP submission as meeting the interstate transport requirements for the 2010 1-hour SO₂ NAAQS.

DATES: Comments must be received on or before [insert date 30 days after date of publication in the Federal Register].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R10-OAR-2016-0590, at <https://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *regulations.gov*. EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information the disclosure of which is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied

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

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SUPPLEMENTARY INFORMATION: Throughout this document, whenever “we,” “us,” or “our” is used, it is intended to refer to EPA. Information is organized as follows:

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I. Background

A. Infrastructure SIPs

On June 2, 2010, EPA established a new primary 1-hour SO₂ NAAQS of 75 parts per billion (ppb), based on a 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations.¹ The CAA requires each state to submit, within 3 years after promulgation of a

¹ 75 FR 35520 (June 22, 2010).

new or revised NAAQS, SIPs meeting the applicable infrastructure elements of sections 110(a)(1) and (2). One of these applicable infrastructure elements, CAA section 110(a)(2)(D)(i), requires SIPs to contain “good neighbor” provisions to prohibit certain adverse air quality effects on neighboring states due to interstate transport of pollution.

Section 110(a)(2)(D)(i) includes four distinct components, commonly referred to as prongs, that must be addressed in infrastructure SIP submissions. The first two prongs, codified at CAA section 110(a)(2)(D)(i)(I), require SIPs to contain adequate provisions that prohibit any source or other type of emissions activity in one state from contributing significantly to nonattainment of the NAAQS in any other state (prong 1) and from interfering with maintenance of the NAAQS in any other state (prong 2). The remaining prongs, codified at CAA section 110(a)(2)(D)(i)(II), require SIPs to contain adequate provisions that prohibit emissions activity in one state from interfering with measures required to prevent significant deterioration of air quality in any other state (prong 3) and from interfering with measures to protect visibility in any other state (prong 4).

In this action, EPA is proposing to approve the prong 1 and prong 2 portions of the Washington’s February 7, 2018 SIP submission because, based on the information available at the time of this rulemaking, Washington demonstrated that it will not significantly contribute to nonattainment or interfere with maintenance of the 2010 SO₂ NAAQS in any other state. All other applicable infrastructure SIP requirements for this SIP submission will be addressed in separate rulemakings.

B. 2010 1-Hour SO₂ NAAQS Designations Background

In this action, EPA has considered information from the 2010 1-hour SO₂ NAAQS designations process, as discussed in more detail in Section III of this preamble. For this reason,

a brief summary of EPA’s designations process for the 2010 1-hour SO₂ NAAQS is included here.²

After the promulgation of a new or revised NAAQS, EPA is required to designate areas as “nonattainment,” “attainment,” or “unclassifiable” pursuant to section 107(d)(1) of the CAA. The process for designating areas following promulgation of a new or revised NAAQS is contained in section 107(d) of the CAA. The CAA requires EPA to complete the initial designations process within two years of promulgating a new or revised standard. If the Administrator has insufficient information to make these designations by that deadline, EPA has the authority to extend the deadline for completing designations by up to one year.

EPA promulgated the 2010 1-hour SO₂ NAAQS on June 2, 2010. *See* 75 FR 35520 (June 22, 2010). EPA completed the first round of designations (“round 1”)³ for the 2010 1-hour SO₂ NAAQS on July 25, 2013, designating 29 areas in 16 states as nonattainment for the 2010 1-hour SO₂ NAAQS. *See* 78 FR 47191 (August 5, 2013). EPA signed Federal Register actions of promulgation for a second round of designations⁴ (“round 2”) June 30, 2016 (81 FR 45039 (July 12, 2016)) and on November 29, 2016 (81 FR 89870 (December 13, 2016)), and a third round of designations (“round 3”) on December 21, 2017 (83 FR 1098 (January 9, 2018)).⁵

² While designations may provide useful information for purposes of analyzing transport, particularly for a more source-specific pollutant such as SO₂, EPA notes that designations themselves are not dispositive of whether or not upwind emissions are impacting areas in downwind states. EPA has consistently taken the position that CAA section 110(a)(2)(D)(i)(I) addresses “nonattainment” anywhere it may occur in other states, not only in designated nonattainment areas nor any similar formulation requiring that designations for downwind nonattainment areas must first have occurred. *See e.g.*, Clean Air Interstate Rule, 70 FR 25162, 25265 (May 12, 2005); Cross-State Air Pollution Rule, 76 FR 48208, 48211 (August 8, 2011); Final Response to Petition from New Jersey Regarding SO₂ Emissions From the Portland Generating Station, 76 FR 69052 (November 7, 2011) (finding facility in violation of the prohibitions of CAA section 110(a)(2)(D)(i)(I) with respect to the 2010 1-hour SO₂ NAAQS prior to issuance of designations for that standard).

³ The term “round” in this instance refers to which “round of designations.”

⁴ EPA and state documents and public comments related to the round 2 final designations are in the docket at regulations.gov with Docket ID No. EPA-HQ-OAR-2014-0464 and at EPA’s website for SO₂ designations at <https://www.epa.gov/sulfur-dioxide-designations>.

⁵ Consent Decree, *Sierra Club v. McCarthy*, Case No. 3:13-cv-3953-SI (N.D. Cal. March 2, 2015). This consent decree requires EPA to sign for publication in the Federal Register documents of the Agency’s promulgation of area designations for the 2010 1-hour SO₂ NAAQS by three specific deadlines: July 2, 2016 (“round 2”); December 31, 2017 (“round 3”); and December 31, 2020 (“round 4”).

On August 21, 2015 (80 FR 51052), EPA separately promulgated air quality characterization requirements for the 2010 1-hour SO₂ NAAQS in the Data Requirements Rule (DRR). The DRR requires state air agencies to characterize air quality, through air dispersion modeling or monitoring, in areas associated with sources that emitted 2,000 tons per year (tpy) or more of SO₂, or that have otherwise been listed under the DRR by EPA or state air agencies. In lieu of modeling or monitoring, state air agencies, by specified dates, could elect to impose federally enforceable emissions limitations on those sources restricting their annual SO₂ emissions to less than 2,000 tpy, or provide documentation that the sources have been shut down. EPA expected that the information generated by implementation of the DRR would help inform designations for the 2010 1-hour SO₂ NAAQS.

In “round 3” of designations, EPA designated Lewis and Thurston counties in Washington as unclassifiable for the 2010 1-hour SO₂ NAAQS. Washington selected the monitoring pathway pursuant to the DRR for the areas surrounding two sources in Chelan and Douglas, and Whatcom counties. These areas will be designated in a fourth round of designations (“round 4”) by December 31, 2020. The remaining counties in Washington were designated as attainment/unclassifiable in round 3.⁶

II. Relevant Factors to Evaluate 2010 SO₂ Interstate Transport SIPs

Although SO₂ is emitted from a similar universe of point and nonpoint sources, interstate transport of SO₂ is unlike the transport of fine particulate matter (PM_{2.5}) or ozone, in that SO₂ is not a regional pollutant and does not commonly contribute to widespread nonattainment over a large (and often multi-state) area. The transport of SO₂ is more analogous to the transport of lead

⁶ See Technical Support Document: Chapter 42 Final Round 3 Area Designations for the 2010 1-Hour SO₂ Primary National Ambient Air Quality Standard for Washington at <https://www.epa.gov/sites/production/files/2017-12/documents/42-wa-so2-rd3-final.pdf>. See also Technical Support Document: Chapter 42 Intended Round 3 Area Designations for the 2010 1-Hour SO₂ Primary National Ambient Air Quality Standard for Washington at https://www.epa.gov/sites/production/files/2017-08/documents/43_wa_so2_rd3-final.pdf.

(Pb) because its physical properties result in localized pollutant impacts very near the emissions source. However, ambient concentrations of SO₂ do not decrease as quickly with distance from the source as Pb because of the physical properties and typical release heights of SO₂. Emissions of SO₂ travel farther and have wider ranging impacts than emissions of Pb but do not travel far enough to be treated in a manner similar to ozone or PM_{2.5}. The approaches that EPA has adopted for ozone or PM_{2.5} transport are too regionally focused, and the approach for Pb transport is too tightly circumscribed to the source to serve as a model for SO₂ transport. SO₂ transport is therefore a unique case and requires a different approach.

In this proposed rulemaking, as in prior SO₂ transport analyses, EPA focuses on a 50 km-wide zone because the physical properties of SO₂ result in relatively localized pollutant impacts near an emissions source that drop off with distance. Given the physical properties of SO₂, EPA selected the “urban scale”, a spatial scale with dimensions from 4 to 50 kilometers (km) 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 such point sources.⁷ As such, EPA utilized an assessment up to 50 km from point sources in order to assess trends in area-wide air quality that might impact downwind states.

III. State Submission

On February 7, 2018, the Washington State Department of Ecology (Ecology) submitted a SIP to address CAA section 110(a)(2)(D)(i)(I), prongs 1 and 2, of the “good neighbor” provisions, for the 2010 SO₂ NAAQS.⁸ The submission concluded that SO₂ emissions from sources in Washington will not contribute to nonattainment or interfere with maintenance of the

⁷ For the definition of spatial scales for SO₂, please *see* 40 CFR part 58, appendix D, section 4.4 (“Sulfur Dioxide (SO₂) Design Criteria”). For further discussion on how EPA is applying these definitions with respect to interstate transport of SO₂, *see* EPA’s proposal on Connecticut’s SO₂ transport SIP. 82 FR 21351, 21352, 21354 (May 8, 2017).

⁸ The February 7, 2018 SIP submission also addressed the 2015 ozone NAAQS. EPA approved the ozone-related portion of the SIP submission on September 20, 2018 (83 FR 47568).

2010 SO₂ NAAQS in any other state. Washington arrived at this conclusion after (1) reviewing SO₂ emissions sources, (2) identifying downwind monitoring sites as potential receptors in neighboring states, (3) conducting an emissions over distance (Q/D) analysis, (4) evaluating available SO₂ modeling results for specific sources, and (5) reviewing the current SIP for existing federally-approved controls that limit SO₂ emissions from existing and future sources.

Emissions Sources

Washington reviewed preliminary 2014 emissions inventory data (the most recent data available at the time the submission was developed).⁹ Point sources, including electrical utilities and industrial sources, account for the largest anthropogenic sources of SO₂ emissions as shown in Table 1. Washington’s port and shipping activities account for the second highest source category, after point sources. Washington’s conclusions about this source sector are also further discussed in a later section of this document.

Table 1. Preliminary 2014 Emissions Inventory of Anthropogenic SO₂ Sources in Washington¹⁰

Source Category	Emissions (short tons)
Point sources	14,510
Commercial marine vessels	11,316
Silvicultural burning	1,177
Industrial, commercial, institutional combustion	1,095
On-road mobile	591

Receptors in Neighboring States

The submission identified SO₂ monitoring sites in Idaho and Oregon, which are the only two states that border Washington. These monitoring sites were selected as downwind receptors

⁹ In Section III of this preamble, we have reviewed more recent data released as part of the 2017 National Emissions Inventory.

¹⁰ The top five categories and emissions numbers in table 1 are re-printed from page 9 (Table 5) of the Washington State Implementation Plan Revision Interstate Transport of Sulfur Dioxide and Ozone, February 2018, publication 18-02-005, in the docket for this action.

and further evaluated for potential impacts from Washington SO₂ sources. The submission included a table of downwind receptor monitored values for 2012 through 2016 (the most recent data available at the time the submission was developed). The data presented in Table 2 is the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations at the identified receptors, in parts per billion (ppb).

Table 2. 99th Percentile for the 2010 SO₂ NAAQS at Identified Downwind Receptors (ppb)¹¹

County	Site ID	2012	2013	2014	2015	2016
Ada County, ID	160010010	6	11	5	3	4
Bannock County, ID	160050004	73	40	38	45	33
Caribou County, ID	160290031	35	31	23	23	32
Multnomah County, OR	410510080	10	5	3	4	3

The submission included a spatial analysis of these receptor locations relative to the Washington State border, and relative to stationary sources in Washington that are located within 50 kilometers (km) of each receptor. After mapping the identified downwind receptors, the Washington Department of Ecology found that the Multnomah County, Oregon receptor (Site ID 41051008), which is the National Core (NCore) site located in the Portland metropolitan area, warranted further analysis because (1) it is within 50 km of the Washington border and because (2) four Washington SO₂ point sources are within a 50-km radius of the Multnomah County receptor. The submission states that the sources within the 50-km radius are small (three of the four sources emitted less than 10 tons SO₂ in 2014, and the fourth source emitted 17 tons in 2014). In addition, the Multnomah County receptor has historically monitored low 1-hour SO₂ 99th percentile values, as shown in the prior table.

Washington identified two Washington SO₂ sources with annual emissions greater than 100 tons within 50 km of the Washington border. These two sources, Weyerhaeuser NR

¹¹ The values in table 2 are re-printed from page 8 (Tables 3 and 4) of the Washington State Implementation Plan Revision Interstate Transport of Sulfur Dioxide and Ozone, February 2018, publication 18-02-005, in the docket for this action. These are 99th percentile values, rounded to the nearest whole number.

Company and Longview Fibre, are pulp and paper plants. Washington further evaluated these sources to assess whether they may have a potential impact on the Multnomah County receptor. The State reviewed monitoring data, local weather data, and regional emissions modeling and found it is reasonable to conclude that most of the SO₂ monitored at the Multnomah County receptor originates within the Portland metropolitan area of Oregon.¹²

Washington proceeded to conduct an emissions-to-distance analysis of point sources (including Weyerhaeuser NR Company and Longview Fibre) as described in the following section. Washington also reviewed SO₂ emissions from commercial marine vessels operating at several Washington ports. Washington asserted that SO₂ emissions from western-Washington ports are not likely to impact the Multnomah County receptor (nor the Idaho receptors) in part because the ports are located over 50 km from the Oregon border and also because the port emissions are spread across large areas, vessels, and operations, as opposed to emissions from stationary point sources.¹³

Emissions-to-Distance Analysis

The submission included an emissions-to-distance (Q/D) analysis used to prioritize point sources with potential impact on the closest receptor in a neighboring state. Q/D is a common screening technique used to estimate potential visibility impacts for purposes of Regional Haze planning and to analyze predicted air quality impacts in the context of major stationary source permitting in areas designated attainment and unclassifiable (Prevention of Significant Deterioration (PSD) permitting). The submission included the following table of Q/D results.

Table 3. Emissions-to-Distance (Q/D) Results¹⁴

¹² See page 13-14 of the Washington State Implementation Plan Revision Interstate Transport of Sulfur Dioxide and Ozone, February 2018, publication 18-02-005, in the docket for this action.

¹³ Ibid.

¹⁴ Ibid. Table was from the SIP submittal with added sources.

Facility	Type	County	Distance to border (km)	Distance to receptor (km)	2014 SO ₂ (short tons) ¹⁵	Q/D
TransAlta Centralia General LLC	Electricity Generation via Combustion	Lewis	68	141	3037	21.5
Alcoa Primary Metals Intalco Works	Primary Aluminum Plant	Whatcom	292	373	4794	12.9
Alcoa Primary Metals Wenatchee Works	Primary Aluminum Plant	Chelan	164	281	2935	10.5
Weyerhaeuser NR Company	Pulp and Paper Plant	Cowlitz	1	76	440	5.8
BP Cherry Point Refinery	Petroleum Refinery	Whatcom	296	377	917	2.4
Longview Fibre	Pulp and Paper Plant	Cowlitz	1	72	141	2.0
Boise Paper	Pulp and Paper Plant	Walla Walla	150	100	186	1.85
RockTenn Mill Tacoma	Pulp and Paper Plant	Pierce	131	197	261	1.3
Cosmo Specialty Fibers	Pulp and Paper Plant	Grays Harbor	75	185	237	1.3
Puget Sound Refining Company	Petroleum Refinery	Skagit	255	331	347	1.0

The TransAlta Centralia Generation facility was the only source that exceeded Washington's threshold ratio of 20 for the Q/D analysis (Q/D = 21.5). As a result, it was the only source that Washington evaluated further following the Q/D analysis.

Available SO₂ Modeling Results

In the SIP submission, Washington explained their review of published modeling data for the TransAlta facility and indicated that the modeling showed limited SO₂ impact outside of the immediate area of the facility.¹⁶ Washington also provided plume modeling data that indicated

¹⁵ Most recent emissions data available at the time the State developed the submission. In Section III of this preamble, we have reviewed more recent data released as part of the 2017 National Emissions Inventory.

¹⁶ See page 12 of the Washington State Implementation Plan Revision Interstate Transport of Sulfur Dioxide and Ozone, February 2018, publication 18-02-005, in the docket for this action.

the facility's SO₂ plume distributes toward the south but would not be expected to reach the area near the Multnomah County receptor in any significant concentration.¹⁷ Washington further explained that the facility has SO₂ emissions at the facility of less than 1,350 pounds per hour as of December 15, 2016.¹⁸ Based on this information, Washington concluded that the TransAlta facility does not significantly contribute to SO₂ emissions at the Multnomah County Receptor.

Existing and Future SO₂ Controls

Washington reviewed current and future enforceable emission limits and controls that apply to SO₂ sources in Washington. Most of the limits and control requirements referenced have been approved into the Code of Federal Regulations (CFR) at 40 CFR part 52, subpart WW, including the SIP and Federal Implementation Plan (FIP) requirements related to Regional Haze best available retrofit technology (BART). These provisions and others listed below are designed to limit SO₂ emissions from existing and future sources in the State:

- 40 CFR 52.2470(c) reasonably available control technology requirements (Revised Code of Washington (RCW) 90.94.154 and Chapter 173-400 Washington Administrative Code (WAC))
- 40 CFR 52.2470(c) kraft pulp mill regulations (173-405 WAC)
- 40 CFR 52.2470(c) sulfite pulp mill regulations (173-410 WAC)
- 40 CFR 52.2470(c) primary aluminum smelter regulations (173-415 WAC)
- 40 CFR 52.2470(c) pre-construction permitting (WAC 173-400-111 and 720)
- 40 CFR 52.2470(c) gasoline vapor and volatile organic compound emission regulations (173-490 and 491 WAC)
- 40 CFR 52.2470(d) BART requirements for TransAlta Centralia (coal units BW21)

¹⁷ <https://www.epa.gov/sites/production/files/2017-01/documents/ecologytechnicalreporttransaltaso2modelingresults2017.pdf>

¹⁸ <http://www.swcleanair.org/docs/permits/prelim/16-3202ADP.pdf>

and BW22 will permanently cease burning coal and be decommissioned by December 31, 2020 and December 31, 2025, respectively)¹⁹

- 40 CFR 52.2470(d) BART requirements for BP Cherry Point Refinery
- 40 CFR 52.2500 BART requirements for ALCOA Primary Metals Intalco Works
- 40 CFR 52.2501 BART requirements for Tesoro Petroleum Refinery
- 40 CFR 52.2502 BART requirements for ALCOA Primary Metals Wenatchee Works

Based on their analysis of monitoring and emissions data, the Q/D analysis, and current and future SO₂ controls, Washington concluded that SO₂ emissions from sources in Washington will not contribute to nonattainment or interfere with maintenance of the 2010 SO₂ NAAQS in any other state. Therefore, Washington requested EPA approval of the submission for purposes of CAA section 110(a)(2)(D)(i)(I) for the 2010 SO₂ NAAQS.

IV. EPA's Analysis

EPA first reviewed the Washington submission to assess how the State evaluated interstate transport of SO₂, the types of information Washington used in the analysis, and the conclusions drawn by the State. We then conducted a weight of evidence analysis to determine if we agree with the State's conclusion that SO₂ emissions from sources in Washington will not significantly contribute to nonattainment or interfere with maintenance of the 2010 SO₂ NAAQS in any other state.

A. Prong 1 Evaluation

Washington's submission focused on one downwind receptor and a relatively limited source-oriented and spatial evaluation of potential transport based on an emissions-to-distance analysis. As a result of the emissions-to-distance analysis, Washington reviewed one source,

¹⁹ The submission references Southwest Clean Air Agency Regulatory Order 16-32 dated December 15, 2016. This regulatory order was not submitted for approval and is therefore not addressed in this action.

TransAlta, for potential transport. TransAlta is located approximately 70 km from the state border with Oregon.²⁰

EPA has performed a supplemental analysis to more fully evaluate sources in Washington for potential transport to neighboring states. In our analysis we reviewed: 1) emissions inventory data and emissions trends for point sources in Washington emitting greater than 100 tpy; 2) SO₂ ambient air quality data; and 3) spatial analysis of point sources located within 50 km of the Washington state border.

1. Point Source Emissions Inventory Data

First, we compiled a list of Washington point sources emitting over 100 tons per year of SO₂ according to the 2017 NEI. Then, we added 2008, 2011, and 2014 NEI data, for reference, as listed in Table 4.

Table 4. Trends in SO₂ Emissions (tons per year) from Point Sources in Washington²¹

Facility	Type	County	2008	2011	2014	2017
Alcoa Primary Metals Intalco Works	Primary Aluminum Plant	Whatcom	4523	4538	4794	3987
TransAlta Centralia Generation, LLC	Electricity Generation via Combustion	Lewis	2318	1136	3037	1689
Alcoa Primary Metals Wenatchee Works*	Primary Aluminum Plant	Chelan	1810	2906	2935	--
BP Cherry Point Refinery	Petroleum Refinery	Whatcom	1764	1007	917	808
Boise Paper	Pulp and Paper Plant	Wallula	780	793	186	885
Weyerhaeuser NR Company (Nippon Dynawave)	Pulp and Paper Plant	Cowlitz	512	582	440	390
Puget Sound Refining Company	Petroleum Refinery	Skagit	450	359	347	225
Longview Fibre	Pulp and Paper Plant	Cowlitz	281	202	141	197
WestRock Tacoma Mill	Pulp and Paper Plant	Pierce	635	349	261	189

²⁰ As mentioned in Section I.B of this preamble, EPA designated the area containing TransAlta, Lewis and Thurston counties in Washington, as Unclassifiable in Round 3 of SO₂ designations. Washington submitted modeling for the area, however, EPA identified deficiencies with the modeling as the basis for the Unclassifiable designation. This Unclassifiable area boundary is within 50 km of the Washington state border, however, the only source emitting over 100 tpy in the area, TransAlta, is located more than 50 km from the state border. Given the distance between TransAlta and the state border, EPA did not evaluate this source further for potential transport.

²¹ 2011, 2014, and 2017 National Emissions Inventory data for point sources available at <https://www.epa.gov/air-emissions-inventories>.

Cosmo Specialty Fibers	Pulp and Paper Plant	Grays Harbor	--	214	237	242
Sea-Tac International Airport	Airport	King	192	243	261	506
Chemtrade	Chemical Plant	Skagit	123	155	215	203
Total			13388	12484	13771	9321

*Curtailed since 2015

The NEI data from 2008 to 2017 show decreases in SO₂ emissions from certain sources, including two petroleum refineries: BP Cherry Point and Puget Sound Refining Company. The data in Table 4 also show a mix of slight increases and decreases at some large pulp and paper plants and other sources categories.

2. SO₂ Ambient Air Quality Data

Information from SO₂ monitors near the borders between Washington and its neighboring states of Idaho and Oregon is also useful context for evaluating whether the SIP submission from Washington satisfies prong 1. Tables 5 and 6 below summarize this SO₂ monitoring information for monitors in Washington and the bordering states of Idaho and Oregon. We note that there are only two monitors within approximately 50 km of the Washington State border, and both monitors are located outside of the State (in Idaho and Oregon).

Table 5. Trends in 3-Year SO₂ Design Values (ppb) for AQS Monitors in Washington²²

Site ID	Site Name	~ Distance to Border	2013-2015	2014-2016	2015-2017
530570011	Anacortes-202 O Ave	263 km	5	5	4
530090013	Cheeka Peak	240 km	2 incomplete	2	1 incomplete
530730013	Ferndale-Kickerville Rd	293 km	-- invalid	-- invalid	-- invalid
530730017	Ferndale-Mountain View Rd	294 km	-- invalid	-- invalid	-- invalid
530070012	Malaga-Malaga Highway	228 km	-- invalid	-- invalid	-- invalid
530330080	Seattle-Beacon Hill	167 km	6 incomplete	5 incomplete	6 incomplete

incomplete = Design value calculated based on data that does not meet completeness criteria.

invalid = Insufficient data collected to determine a valid 3-year design value.

²² Data obtained on 11/13/2019 at <https://www.epa.gov/air-trends/air-quality-design-values>

Table 6. Trends in 99th Percentile Values (ppb) for AQS Monitors in Washington²³

Site ID	Site Name	~ Distance to Border	2017	2018	2019
530570011	Anacortes-202 O Ave	263 km	3	2	3
530090013	Cheeka Peak	240 km	1	1	1
530730013	Ferndale-Kickerville Rd*	293 km	70	74	70
530730017	Ferndale-Mountain View Rd*	294 km	114	101	105
530070012	Malaga-Malaga Highway**	228 km	1	1	1
530330080	Seattle-Beacon Hill	167 km	6	8	6

*These two monitors are source-oriented monitors that began operating in early 2017 to characterize air quality around Alcoa Intalco Works.

**This monitor is a source-oriented monitor that began operating in early 2017 to characterize air quality around Alcoa Wenatchee Works.

Table 7. Trend in 3-Year SO₂ Design Values (ppb) for AQS Monitors surrounding Washington²⁴

Site ID	County	~ Distance to Border	2013-2015	2014-2016	2015-2017
160010010	Ada County, Idaho	55	7 incomplete	4	3
160050004	Bannock County, Idaho	489	41	39	38
160290031	Caribou County, Idaho	558	26	26	30
410510080	Multnomah County, Oregon	12	4	3	3

incomplete = Design value calculated based on data that does not meet completeness criteria.

Except for the Anacortes monitor, Washington SO₂ monitors have either incomplete or invalid data during the last three design value periods.²⁵ However, in Table 6 of this document, we've included the 99th percentile values for these monitors in Washington as additional evidence that, generally, statewide monitored values are below the level of the NAAQS.

Three new SO₂ monitors were established in Washington in early 2017. These three monitors were established to characterize two sources for purposes of the SO₂ Data Requirements Rule (DRR), namely Alcoa Primary Metals Intalco Works and Alcoa Wenatchee

²³ Data obtained on 4/16/2020 at <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>.

²⁴ Data obtained from EPA's Outdoor Air Quality Database (11/13/2019).

²⁵ To be comparable to the NAAQS, the design value must be valid according to appendix T to 40 CFR part 50 which specifies minimum data completeness criteria for the 1-hour 2010 SO₂ NAAQS.

Works. These areas will be designated in Round 4 of SO₂ designations. The data from these monitors (Site IDs 530730013, 530730017, and 530070012) was required to be certified by the State as valid, 3-year design values by May 1, 2020. One of these monitors is recording exceedances of the NAAQS. However, we note that all three monitors (and the sources they were sited to characterize) are over 200 km away from the Washington border with neighboring states and are therefore not likely to have an adverse impact on air quality in the neighboring states of Idaho and Oregon.

Valid, complete data is available for the SO₂ monitors in Idaho and Oregon, and design values are well below the level of the 2010 SO₂ NAAQS, as shown in Table 7 of this document. As described, there are no Washington monitors located within 50 km of a neighboring state's border, however, there are two monitors in neighboring states located within approximately 50 km of the Washington border, and these monitors recorded SO₂ design values well below the level of the 2010 SO₂ NAAQS for the most recent valid design value periods. These monitored values do not, alone, indicate any particular location that would warrant further investigation with respect to SO₂ emission sources that might significantly contribute to nonattainment in the neighboring states. However, because the monitoring network is not necessarily designed to capture all locations of high SO₂ concentrations, this observation indicates an absence of evidence of impact at these locations and is insufficient to capture the impact at all locations in the neighboring states. Therefore, we have also conducted a source-oriented analysis.

3. Spatial Analysis of Point Sources

As noted, EPA has determined that it is appropriate to examine the impacts of emissions from stationary sources in distances ranging from 0 km to 50 km from the facility, based on the "urban scale" definition contained in appendix D to 40 CFR part 58, section 4.4. As a result, we evaluated point sources of up to 50 km from the state border for emissions trends and SO₂ concentrations in areawide air quality. In the absence of special factors, for example the

presence of nearby larger sources or unusual factors, sources emitting less than 100 tons per year SO₂ can be appropriately presumed to not be significantly contributing to SO₂ concentrations above the 2010 SO₂ NAAQS. The list of sources emitting 100 tons per year or more of SO₂, based on 2017 point source data, within 50 km of the Washington state border, are shown in Table 8.

Table 8. Sources within 50 km of the Washington state border with SO₂ Emissions greater than 100 tpy and Nearest Neighboring State Sources

Sources	2017 SO ₂ Emissions (tons)	Distance from the Border (km)	Neighboring State	Neighboring State Source (Distance Between the Sources)	2017 SO ₂ Emissions of Neighboring State Source (tons)
Weyerhaeuser NR Company -- Longview, Washington	390	1	Oregon	Wauna Mill - Paper Mill - Clatskanie, Oregon (33 km)	540
Longview Fibre -- Longview, Washington	197	1	Oregon	Wauna Mill - Paper Mill - Clatskanie, Oregon (38 km)	540
Boise Paper -- Wallula, Washington	885	11	Oregon	PGE Boardman - Boardman, Oregon (82 km)	3298
Portland International Airport – Portland, Oregon	215	2	Washington	Longview Fibre -- Longview, Washington (62 km)	197
Owens-Brockway Glass Container Inc. – Portland Oregon	118	4	Washington	Longview Fibre -- Longview, Washington (66 km)	197
PGE Boardman - Boardman, Oregon	3298	17	Washington	Boise Paper -- Wallula, Washington (82)	885

Wauna Mill - Paper Mill- Clatskanie, Oregon	540	<1	Washington	Weyerhaeuser NR Company -- Longview, Washington (33)	390
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The Washington sources listed are of interest with respect to SO₂ transport because of the possibility that they are causing a violation of the 2010 SO₂ NAAQS in their locality that extends into a neighboring state. There is also the possibility of emissions from one or more of these sources in Washington and emissions from a source in a neighboring state interacting in such a way as to contribute significantly to a violation in the neighboring state. As such, we have also included sources in neighboring states within 50 km of the Washington state border as part of this analysis. The prior table shows the distance from each of the sources listed therein to the nearest source across the Washington state border emitting above 100 tons per year of SO₂. Generally, a greater distance between two sources reduces the likelihood that their emissions could interact in such a way as to contribute significantly to a violation in the neighboring state. Given the localized range of potential 1-hour SO₂ impacts, sources which are greater than 50 km from each other would not warrant further investigation with respect to Washington SO₂ emission sources that might contribute to problems with attainment of the 2010 SO₂ NAAQS in neighboring states. As shown, there are two sources in Washington which are within 50 kilometers from a source in a neighboring state; Weyerhaeuser NR Company and Longview Fibre in Longview, Washington, located 33 and 38 km respectively, from the Wauna Mill in Clatskanie, Oregon. Therefore, we have evaluated these sources further.

Longview, Washington, and Clatskanie, Oregon, comprise a cross-border, uncombined metropolitan area. Currently, EPA does not have monitoring or modeling information to indicate a violation or elevated SO₂ concentrations in this area. Given the distance between the cross-state sources (over 30 km), the declining emissions at the sources in Longview, Washington, as

demonstrated in Table 4 of this document, and the lack of evidence of violations or elevated SO₂ concentrations in the area; it is unlikely that emissions from the two sources in Longview, Washington, could interact with emissions from the Wauna Mill in Clatskanie, Oregon, in such a way as to adversely impact a violation of the SO₂ NAAQS in Oregon. Based on these factors, we propose to concur with the state’s conclusion that SO₂ emissions from sources in Longview, Washington, will not contribute significantly to nonattainment of the 2010 SO₂ NAAQS in the neighboring state of Oregon.

EPA has also evaluated PGE Boardman, a DRR source located within 50 km of the Washington border. PGE Boardman is located in Boardman, Oregon, and, as shown in Table 8 of this document, the nearest source in Washington is Boise Paper in Wallula, Washington. Although these sources are located 82 km apart, and it is unlikely that their emissions could interact in such a way as to contribute significantly to violations in the neighboring state, because emissions from PGE Boardman near the Washington border are over 3000 tons per year, we have further evaluated the source. The State of Oregon modeled the area surrounding the facility, and the details are summarized in Table 9.

Table 9. Other States' Sources With DRR Modeling Located Within 50 km of Washington

DRR Source	County (State)	Approximate Distance From Source to Washington Border (km)	Other Facilities Included in Modeling	Modeled 99th Percentile Daily Maximum 1-Hour SO₂ Concentration (ppb)	Model Grid Extends Into Another State?
PGE Boardman ²⁶	Morrow (OR)	17	11 sources in Oregon: Columbia Ridge Landfill, PGE	73 (<i>based on PTE emissions</i>)	Yes, into WA (portions of Benton, Klickitat)

²⁶ See Technical Support Document: Chapter 34 Final Round 3 Area Designations for the 2010 1-Hour SO₂ Primary National Ambient Air Quality Standard for Oregon at https://www.epa.gov/sites/production/files/2017-08/documents/34_or_so2_rd3-final.pdf.

			Boardman Carty Plant, ConAgra Foods Lamb Weston, Inc., TMF Biofuels, LLC, Hermiston Power LLC, Hermiston Generating Company, Perennial- Windchaser LLC, Oregon Potato Company, Finley BioEnergy LLC, Gas Transmission Northwest LLC, Finley Buttes Landfill.		and Yakima Counties, WA)
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The State submitted the resulting model data to EPA and indicated that Oregon found no modeled exceedances of the 2010 SO₂ NAAQS within 50 km of the Boardman Plant. The State recommended EPA designate the area around the Boardman Plant as unclassifiable/attainment. EPA agreed and designated the entire State of Oregon attainment/unclassifiable for the 2010 SO₂ NAAQS (83 FR 1098, January 9, 2018).²⁷

Furthermore, Oregon’s SIP requires PGE Boardman to implement a phased reduction of operation and cease coal-fired operation by December 31, 2020. Based on this analysis, as well as the modeling results for the area around the Boardman plant and the federally enforceable emissions reductions planned for the facility, we propose to concur with the State’s conclusion that SO₂ emissions from sources in Washington will not contribute significantly to nonattainment of the 2010 SO₂ NAAQS in the area in Oregon surrounding the PGE Boardman facility.

This spatial analysis of point sources within 50 km of the Washington border, including available modeling results, weighed along with the other factors in this document, support EPA's proposed conclusion that sources in Washington will not adversely impact air quality so as to significantly contribute to nonattainment of the 2010 1-hour SO₂ NAAQS in any other state.

²⁷ See 40 CFR 81.338.

Furthermore, EPA does not have any evidence of any violations of the 2010 1-hour SO₂ NAAQS in the neighboring states to which SO₂ emissions from Washington could significantly contribute.

Based on our review of the Washington submission and our weight of evidence analysis, we propose to conclude that sources in Washington will not significantly contribute to nonattainment of the 2010 SO₂ NAAQS in any other state, per the requirements of CAA section 110(a)(2)(D)(i)(I).

B. Prong 2 Evaluation

Prong 2 of CAA section 110(a)(2)(D)(i)(I) requires an evaluation of the potential impact of a state's emissions on areas in other states that may have trouble attaining and maintaining the NAAQS in the future. Approval of a SIP for prong 2 requires a conclusion that SO₂ emissions from the State's sources will not interfere with maintenance of the 2010 1-hour SO₂ NAAQS in another state.

Our prong 2 evaluation for Washington builds on our analysis regarding significant contribution to nonattainment (prong 1). Specifically, as explained in Section IV.A of this preamble, we have a sufficient basis to conclude that there are no NAAQS violations in other states near their shared borders with Washington (Idaho and Oregon) and accordingly, we are proposing that sources in Washington are not significantly contributing to a violation of the NAAQS in any of those states. As explained in this section, we also have a sufficient basis for concluding that SO₂ emissions from sources in Washington and other states near their shared borders are highly unlikely to increase sufficiently to alter this situation. Therefore, we are proposing to find that SO₂ levels in neighboring states (Idaho and Oregon) near the Washington border will continue to be at or below the level of the SO₂ NAAQS.

As presented in Table 4 in Section IV.A of this preamble, SO₂ emissions from larger point sources in Washington have decreased by approximately 30 percent between 2008 and

2017. This information on point source SO₂ emissions trends does not by itself demonstrate that SO₂ emissions in the near-border areas in Washington and neighboring states will not impact neighboring states. However, as a component of our weight of evidence analysis for prong 2, it provides an indication that such an increase is unlikely.

As described in the Washington Department of Ecology submission and summarized in Section II of this preamble, there are multiple provisions in the Washington SIP designed to control and limit SO₂ emissions from existing Washington sources. Future stationary sources of SO₂ emissions are subject to Washington's SIP-approved pre-construction permitting program, also known as New Source Review. New Source Review for major stationary sources in areas designated nonattainment for the 2010 SO₂ NAAQS is called nonattainment New Source Review (NNSR) and requires lowest achievable emission rates and offsets in accordance with the SIP-approved NNSR program for Washington State. New Source Review for major stationary sources in attainment and unclassifiable areas is called Prevention of Significant Deterioration (PSD) and requires that best available control technology be applied to any new major source or major modification of a major source. Washington's SIP-approved PSD program requires that new or modified major sources in attainment and unclassifiable areas do not interfere with maintenance in any other state, in accordance with federal regulations set forth in 40 CFR 51.165(b)(1). *See* 40 CFR 52.2497.

Turning to minor sources, such sources are covered by the State's SIP-approved minor new source review permitting program. In accordance with 40 CFR 51.160 through 164, subject sources may not interfere with attainment or maintenance of the NAAQS. We note that the neighboring states of Idaho and Oregon also have SIP-approved PSD and minor source permitting programs. *See* 40 CFR 52.683 and 52.1987, respectively. The permitting regulations contained within these programs are designed to ensure that ambient concentrations of SO₂ in the

neighboring states of Idaho or Oregon are not exceeded as a result of new facility construction or modifications occurring in the near-border areas of these states.

In conclusion, for interstate transport prong 2, EPA has incorporated additional information about emissions trends as well as the technical information considered for interstate transport prong 1, into our evaluation of Washington's submission, which did not include an independent analysis of prong 2. We find that the large distances between cross-state SO₂ sources, combined with an overall reduction in SO₂ emissions from larger Washington sources and SIP-approved measures designed to control and limit emissions from SO₂ sources in Washington, Idaho, and Oregon, taken along with the other factors considered in this document support EPA's proposed conclusion that there will be no interference with maintenance of the 2010 SO₂ NAAQS in neighboring states from sources in Washington. Based on our weight of evidence analysis, we propose to conclude that sources in Washington will not interfere with maintenance of the 2010 SO₂ NAAQS in any other state, per the requirements of CAA section 110(a)(2)(D)(i)(I).

V. Proposed Action

As discussed in Section III of this preamble, Washington concluded that SO₂ emissions from the State will not significantly contribute to nonattainment or interfere with maintenance of the 2010 SO₂ NAAQS in any other state. EPA's analysis, discussed in Section IV of this preamble, confirms this finding. Therefore, we are proposing to approve the Washington SIP as meeting CAA section 110(a)(2)(D)(i)(I) requirements for the 2010 SO₂ NAAQS.

VI. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations.²⁸ Thus, in reviewing SIP

²⁸ 42 U.S.C. 7410(k); 40 CFR 52.02(a).

submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. 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);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because actions such as SIP approvals are exempted under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 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 the 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, this proposed action does not 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 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 dioxide, Reporting and recordkeeping requirements.

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

Dated: July 10, 2020.

Michelle Pirzadeh,
Acting Regional Administrator,
Region 10.

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