6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R10-OAR-2012-0078, FRL-9675-5]

Approval and Promulgation of Implementation Plans; State of Washington; Regional Haze State Implementation Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to approve the Best Available Retrofit Technology (BART) determination for the TransAlta Centralia Generation LLC coal-fired power plant in Centralia, Washington (TransAlta). The Washington State Department of Ecology (Ecology) submitted its Regional Haze State Implementation Plan (SIP) on December 22, 2010 to meet the requirements of 40 CFR 50.308. On December 29, 2011 Ecology submitted an update to the SIP submittal containing a revised and updated BART determination for TransAlta. EPA plans to act on the remaining Regional Haze SIP elements for Washington in the near future.

DATES: Written comments must be received at the address below on or before **[insert date 30 days from the date of publication in the Federal Register]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R10-OAR-2012-0078 by one of the following methods:

- www.regulations.gov. Follow the on-line instructions for submitting comments.
- E-mail: R10-Public_Comments@epa.gov
- Mail: Steve Body, EPA Region 10, Suite 900, Office of Air, Waste and Toxics, 1200 Sixth Avenue, Seattle, WA 98101

• Hand Delivery: EPA Region 10, 1200 Sixth Avenue, Suite 900, Seattle, WA 98101. Attention: Steve Body, Office of Air, Waste and Toxics, AWT-107. Such deliveries are only accepted during normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-R10-OAR-2012-0078. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA, without going through www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available (e.g., CBI or other information whose disclosure is restricted by statute). Certain other material, such as copyrighted

material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at www.regulations.gov or in hard copy at the Office of Air, Waste and Toxics, EPA Region 10, 1200 Sixth Avenue, Seattle, WA 98101. EPA requests that if at all possible, you contact the individual listed below to view a hard copy of the docket.

FOR FURTHER INFORMATION CONTACT: Steve Body at telephone number (206) 553-0782, body.steve@epa.gov, or the above EPA, Region 10 address.

SUPPLEMENTARY INFORMATION: Throughout this document whenever "we," "us," or "our" is used, we mean the EPA. Information is organized as follows:

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I. Background for EPA's Proposed Action

In the Clean Air Act (CAA) Amendments of 1977, Congress established a program to protect and improve visibility in the national parks and wilderness areas. See CAA section 169A. Congress amended the visibility provisions in the CAA in 1990 to focus attention on the problem of regional haze. See CAA section 169B. EPA promulgated regulations in 1999 to implement sections 169A and 169B of the Act. These regulations require states to develop and implement plans to ensure reasonable progress toward improving visibility in mandatory Class I

Federal areas[1] (Class I areas). 64 FR 35714 (July 1, 1999); see also 70 FR 39104 (July 6, 2005) and 71 FR 60612 (October 13, 2006).

Today EPA is proposing action on the portion of the Regional Haze SIP submission relating to the TransAlta facility by proposing to approve the BART determination for oxides of nitrogen (NOx) emissions from TransAlta. Ecology submitted its Regional Haze SIP on December 22, 2010, to meet the requirements of 40 CFR 50.308. (Regional Haze SIP Submittal) On December 29, 2011, Ecology submitted an update to the SIP submittal containing a revised BART determination for TransAlta. (SIP Supplement) Because the BART determination includes a requirement to begin injection of ammonia or urea by January 1, 2013 and a date of January 31, 2013 for TransAlta to comply with emission limits based on installation and operation of selective non-catalytic reduction (SNCR), EPA has determined that early action on this separate portion of the SIP submittal is appropriate at this time. EPA is still reviewing the remaining portions of the SIP submittal and will take action on the remaining elements in the near future.

A. Definition of Regional Haze

Regional haze is impairment of visual range or colorization caused by emission of air pollution produced by numerous sources and activities, located across a broad regional area. The sources include, but are not limited to, major and minor stationary sources, mobile sources, and

[1]Areas designated as mandatory Class I Federal areas consist of national parks exceeding 6000 acres, wilderness areas and national memorial parks exceeding 5000 acres, and all international parks that were in existence on August 7, 1977. 42 U.S.C. 7472(a). In accordance with section 169A of the CAA, EPA, in consultation with the Department of Interior, promulgated a list of 156 areas where visibility is identified as an important value. 44 FR 69122 (November 30, 1979). The extent of a mandatory Class I area includes subsequent changes in boundaries, such as park expansions. 42 U.S.C. 7472(a). Although states and tribes may designate as Class I additional areas which they consider to have visibility as an important value, the requirements of the visibility program set forth in section 169A of the CAA apply only to ''mandatory Class I Federal areas." Each mandatory Class I Federal area is the responsibility of a ''Federal Land Manager.'' 42 U.S.C. 7602(i). When we use the term "Class I area" in this action, we mean a "mandatory Class I Federal area."

area sources including non-anthropogenic sources. Visibility impairment is primarily caused by fine particulate matter (PM2.5) or secondary aerosol formed in the atmosphere from precursor gasses (e.g., sulfur dioxide (SO2), nitrogen oxides (NOx), and in some cases, ammonia and volatile organic compounds). Atmospheric fine particulate reduces clarity, color, and visual range of visual scenes. Visibility reducing fine particulate is primarily composed of sulfate, nitrate, organic carbon compounds, elemental carbon, and soil dust, and impairs visibility by scattering and absorbing light. Fine particulate can also cause serious health effects and mortality in humans, and contributes to environmental effects such as acid deposition and eutrophication.[2]

Data from the existing visibility monitoring network, the "Interagency Monitoring of Protected Visual Environments" (IMPROVE) monitoring network, show that visibility impairment caused by air pollution occurs virtually all the time at most national parks and wilderness areas. Average visual range in many Class I areas in the Western United States is 100-150 kilometers, or about one-half to two-thirds the visual range that would exist without manmade air pollution.[3] Visibility impairment also varies day-to-day and season-to-season depending on variation in meteorology and emission rates.

B. Regional Haze Rules and Regulations

In section 169A of the 1977 CAA Amendments, Congress created a program for protecting visibility in the nation's national parks and wilderness areas. This section of the CAA establishes as a national goal the "prevention of any future, and the remedying of any existing, impairment of visibility in Class I areas which impairment results from manmade air pollution." CAA section 169A(a)(1). On December 2, 1980, EPA promulgated regulations to address

[2] See 64 FR at 35715.

[3] *Id*.

visibility impairment in Class I areas that is "reasonably attributable" to a single source or small group of sources, i.e., "reasonably attributable visibility impairment". 45 FR 80084. These regulations represented the first phase in addressing visibility impairment. EPA deferred action on regional haze that emanates from a variety of sources until monitoring, modeling and scientific knowledge about the relationships between pollutants and visibility impairment were improved.

Congress added section 169B to the CAA in 1990 to address regional haze issues. EPA promulgated a rule to address regional haze on July 1, 1999 (64 FR 35713) (the Regional Haze Rule or RHR). The RHR revised the existing visibility regulations to integrate into the regulation provisions addressing regional haze impairment and to establish a comprehensive visibility protection program for Class I areas. The requirements for regional haze, found at 40 CFR 51.308 and 51.309, are included in EPA's visibility protection regulations at 40 CFR 51.300-309. Some of the main elements of the regional haze requirements are summarized in section III of this rulemaking. The requirement to submit a regional haze SIP applies to all 50 states, the District of Columbia and the Virgin Islands.[4] 40 CFR 51.308(b) requires states to submit the first implementation plan addressing regional haze visibility impairment no later than December 17, 2007.

II. Requirements for Regional Haze SIPs

A. The CAA and the Regional Haze Rule

Regional haze SIPs must assure reasonable progress towards the national goal of achieving natural visibility conditions in Class I areas. Section 169A of the CAA and EPA's implementing regulations require states to establish long-term strategies for making reasonable

[4]Albuquerque/Bernalillo County in New Mexico must also submit a regional haze SIP to completely satisfy the requirements of section 110(a)(2)(D) of the CAA for the entire State of New Mexico under the New Mexico Air Quality Control Act (section 74-2-4).

progress toward meeting this goal. Implementation plans must also give specific attention to certain stationary sources that were in existence on August 7, 1977, but were not in operation before August 7, 1962, and require these sources, where appropriate, to install BART controls for the purpose of eliminating or reducing visibility impairment.

B. Best Available Retrofit Technology

Section 169A of the CAA directs states to evaluate the use of retrofit controls at certain larger, often uncontrolled, older stationary sources in order to address visibility impacts from these sources. Specifically, section 169A(b)(2)(A) of the CAA requires States to revise their SIPs to contain such measures as may be necessary to make reasonable progress towards the natural visibility goal, including a requirement that certain categories of existing major stationary sources[5] built between 1962 and 1977 procure, install, and operate the "Best Available Retrofit Technology" as determined by the state. States are directed to conduct BART determinations for such sources that may be anticipated to cause or contribute to any visibility impairment in a Class I area. Rather than requiring source-specific BART controls, states also have the flexibility to adopt an emissions trading program or other alternative program as long as the alternative provides greater reasonable progress towards improving visibility than BART.

On July 6, 2005, EPA published the *Guidelines for BART Determinations Under the Regional Haze Rule* at appendix Y to 40 CFR Part 51 (hereinafter referred to as the "BART Guidelines") to assist states in determining which of their sources should be subject to the BART requirements and in determining appropriate emission limits for each applicable source. 70 FR 39104. In making a BART applicability determination for a fossil fuel-fired electric generating plant with a total generating capacity in excess of 750 megawatts, a state must use the approach set forth in the BART Guidelines. A State is encouraged, but not required, to follow the BART

[5]The set of "major stationary sources" potentially subject to BART is listed in CAA section 169A(g)(7).

Guidelines in making BART determinations for other types of sources. Regardless of source size or type however, a state must meet the CAA and regulatory requirements for selection of BART, and the state's BART and analysis and determination must be reasonable in light of the overarching purpose of the regional haze program.

States must address all visibility-impairing pollutants emitted by a source in the BART determination process. The most significant visibility-impairing pollutants are sulfur dioxide, nitrogen oxides, and fine particulate matter. EPA has indicated that states should use their best judgment in determining whether volatile organic compounds or ammonia compounds impair visibility in Class I areas.

Under the BART Guidelines, States may select and document an exemption threshold value to determine those BART-eligible sources not subject to BART. A BART-eligible source with an impact below the threshold would not be expected to cause or contribute to visibility impairment in any Class I area. Any source with emissions that model above the threshold value would be subject to a BART determination review. The BART Guidelines acknowledge varying circumstances affecting different Class I areas. States should consider the number of emission sources affecting the Class I areas at issue and the magnitude of the individual sources' impacts. Generally, an exemption threshold set by the State should not be higher than 0.5 deciview (dv).

In their SIPs, States must identify BART-eligible sources that have a visibility impact in any Class I area above the 'BART subject' exemption threshold established by the State and thus, subject to BART. States must document their BART control analysis and determination for all sources subject to BART.

The term "BART-eligible source" used in the BART Guidelines means the collection of individual emission units at a facility that together comprises the BART-eligible source. In

making a BART determination, section 169A(g)(2) of the CAA requires that States consider the following factors: (1) the costs of compliance, (2) the energy and non-air quality environmental impacts of compliance, (3) any existing pollution control technology in use at the source, (4) the remaining useful life of the source, and (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. See also 40 CFR 51.308(e)(1)(ii)(A).

The regional haze SIP must include source-specific BART emission limits and compliance schedules for each source subject to BART. Once a State has made its BART determination, the BART controls must be installed and in operation as expeditiously as practicable, but no later than five years after the date EPA approves the regional haze SIP. CAA section 169(g)(4) and 40 CFR 51.308(e)(1)(iv). In addition to what is required by the RHR, general SIP requirements mandate that the SIP must also include all regulatory requirements related to monitoring, recordkeeping, and reporting for the BART controls on the source. States have the flexibility to choose the type of control measures they will use to meet the requirements of BART.

III. BART Determination for TransAlta

A. Washington's BART Determination for TransAlta

1. TransAlta is Subject to BART

The TransAlta Centralia Generation LLC power plant, located in Centralia, Washington, is a two unit coal-fired power plant rated at 702.5 MW each, when burning coal from the Centralia coalfield as originally designed. The units now burn coal from the Wyoming Powder River Basin and are rated at 670 MW each. The units were commissioned in 1971 and 1972, are one of the 26 BART source categories specified in 40 CFR 51.301 and emit over 250 tons per

year (t/y) of an air pollutant. Modeling to determine whether TransAlta would be subject to BART under the RHR demonstrated TransAlta had a maximum impact of 5.5 dv at Mt. Rainier National Park from both SO2 and NOx emissions. This impact is above the threshold used by Washington for determining those BART eligible sources subject to BART. These units are BART-eligible and subject to BART as described in the SIP submittal, Supplement Appendix L.

On June 11, 2003, EPA approved a revision to the Washington SIP for visibility (Visibility SIP) which included controls for NOx, SO2, and particulate matter for TransAlta. 68 FR 34821. In the action approving these provisions, EPA determined the required controls to be BART for SO2 and PM. Alstrom concentric low NOx burners with overfire air was required to control NOx emissions with emission limits of 0.302 lb/mmBtu for Unit #1 and 0.306 lb/mmBtu for Unit #2. EPA found these controls did not represent BART for NOx in 2003 and the Federal Register notice accompanying that action stated that a BART determination for NOx was not being made at that time. Specifically we explained "…while the NOx emission limitation may have represented BART when the emission limits in the [reasonably available control technology] RACT Order were negotiated, recent technology advancements have been made. EPA cannot now say that the emission limitations in the SWAPCA RACT Order for NOx represent BART. However EPA is approving the emission limits for NOx as a strengthening of the SIP for visibility purposes." Thus, to date there is not a SIP approved BART determination for NOx emissions at TransAlta. 68 FR 34824.

2. BART Evaluation and Determination

The TransAlta NOx BART determination to comply with 40 CFR 51.308(e) was submitted to EPA in two separate submittals. The first submittal was included in the December 22, 2010 Regional Haze SIP submittal. Washington subsequently reevaluated its determination

for TransAlta and on December 29, 2011, submitted an update to the Regional Haze SIP (referred to in this notice as the SIP Supplement). This update included a revised NOx BART determination, the First Revision Order No. 6426 (hereafter referred to as the Revised BART Compliance Order) and technical analysis document for the TransAlta power plant and the related parts of the Regional Haze SIP. The revised BART determination and Revised BART Compliance Order establish a NOx emission limit of 0.21 lb/mmbtu, and among other things, requires selective noncatalytic reduction (SNCR) to be installed by January 1, 2013. The Revised BART compliance order also provides that one coal unit must cease burning coal by December 31, 2020, and the other coal unit cease burning coal by December 31, 2025, unless Ecology determines that State or Federal law requires SCR to be installed on either unit.

Additionally, by way of background, on May 21, 2009, the Governor issued Executive Order 09-05 which contained provisions for TransAlta regarding compliance with Washington State's greenhouse gas (GHG) emission performance standards. Subsequently, the Executive Order was superseded by Washington State Senate Bill 5769 (also known as E2SSB 5769), which was signed by the Governor on April 29, 2011and became effective August 22, 2011, and provided that the plant owners must bring the two coal-fired units into compliance with the GHG performance standards by specified dates. See SIP Supplement L-45-46 and Revised Code of Washington (RCW) Chapter 80-80. The law requires that one of the TransAlta units comply with the GHG performance standards by December 31, 2020 and the other by December 31, 2025. See RCW 80.80.040. As documented in public testimony by the plant owners, State Legislature, environmental organizations and the Governor's Office, the coal-fired units at the TransAlta plant must be decommissioned in order to comply with these new GHG standards. Accordingly, one unit will be decommissioned no later than December 31, 2020 and the second

unit will be decommissioned by December 31, 2025. TransAlta is also required to install SNCR by January 1, 2013, to control NOx emissions. RCW 80.80.100. Additionally, the law states that the requirement to meet the GHG performance standard does not apply if Ecology determines that State or Federal law requires selective catalytic reduction (SCR) to be installed on either coal-fired unit. See Section 106 of Chapter 180, Laws of 2011 and SIP Supplement L-46, see also RCW 80.80.040.

In conducting its BART evaluation for TransAlta, Ecology followed the steps outlined in EPA BART Guidelines at 40 CFR 51, Appendix Y. Briefly this evaluation included the: 1) identification of all available retrofit technology, 2) elimination of technically infeasible technology, 3) identification of control efficiencies of feasible technology, 4) evaluation of impacts and document results, and 5) evaluation of visibility impacts.

The Visibility SIP submittal for our June 11, 2003 approval identified a long list of available NOx control technologies which were evaluated for technical feasibility at the TransAlta plant. That list was narrowed to the technically feasible controls which Ecology used as a starting point for the current BART determination. See SIP Supplement L-79 (Table B-1 Nitrogen Oxide Controls evaluated in the 1997 Reasonable Achievable Control Technology Process). Ecology evaluated, or reevaluated, a number of the NOx control technologies for TransAlta including: low NOx burners with close coupled and over-fired air (LNC3); Flex Fuel[6]; SCR; SNCR; Rotating over-fire air (ROFA)/Rota mix; neutral net technology; and natural gas re-burning. The State found ROFA is infeasible because it has never been tested nor demonstrated in a large tangentially fired boiler of this size. The State also determined that

[6] Flex Fuel refers to the switch from Centralia, Washington coal to coal from the Power River Basin in Wyoming. Powder River Basin coal has a higher heat content requiring less fuel for the same heat extraction, as well as a lower nitrogen and sulfur content than coal from Centralia. Flex Fuel also required changes to boiler design to accommodate Powder River Basin coal.)

"Neutral Net" technology likewise has not been guaranteed to perform and reduce emissions and there are other comparable proven technologies available. The State also found that natural gas re-burning is not listed in the EPA RBLC for use in any coal fired boilers and that it would be less efficient at controlling NOx emissions than the Flex-Fuel plus SNCR as required by Washington's Legislature.

Washington evaluated the cost effectiveness of the technically feasible control options for TransAlta. It found that Flex Fuel alone will reduce NOx emissions by 3,139 t/y and will also reduce SO2 emissions by 1,287 t/y. See SIP Supplement L-67. Based on evaluation of installations at other large tangentially fired power plants, the State determined that SNCR plus Flex Fuel is expected to achieve a 20 to 25% reduction in NOx emissions. The State estimated capital costs for SNCR plus Flex Fuel at TransAlta to be $135 million and annual operating costs of $17.3 million based on an emission limit of 0.21 lb/mmbtu. The retrofit costs for TransAlta will be higher than other similarly sized power plants due to boiler design. The State also calculated the SNCR plus Flex Fuel cost effectiveness to be $2,162/t based on a 25% control efficiency and a 8,022 t/y reduction in NOx emissions. See SIP Supplement L-71.

Among the other technologies considered, Washington also evaluated SCR which would provide a 95% NOx control efficiency. The State considered two scenarios; one including SCR on only one unit and another scenario with SCR on both units. Using a presumptive BART emission limit of 0.15 lb NOx/mmbtu, they estimated the emission reductions for SCR on one unit to be 4,364 t/y and 7,855 t/y for SCR on both units. The capital cost for one unit was estimated at $290.12 million and about double that for SCR on both units. Washington estimated it would take 4 years to design and install SCR with a compliance date of late 2016. The cost effectiveness for SCR on only one unit was calculated at $ 8,205/t. See SIP

Supplement L-58. If SCR was into be installed on both units, the State calculated cost effectiveness for SCR on Unit #1 to be $14,800/t and Unit #2 to be $8,400/t. See SIP Supplement L-69. Washington determined SCR is not cost effective under either scenario and that it is not reasonable to require SCR for this facility.

Washington considered the modeled visibility impairment in the baseline years and the visibility improvement potentially achievable from the various control technologies and control scenarios. The modeling indicated that TransAlta has the greatest impact at Mt. Rainier National Park with a current 5.5 dv impact (3 year 98th percentile value). See Table below and SIP Supplement Appendix L Table 3-1. This impact is reduced to 3.5 dv with emission limits based on Flex Fuel plus SNCR, for a 2.0 dv improvement. Significant improvement in visibility is also expected in 11 other Class I areas. With the expected decommissioning of both emission units by December 31, 2025, there will be a 5.5 dv improvement in visibility at Mt. Rainier National Park and significant improvement in the 11 other Class I areas. The estimated visibility impact from baseline emissions and the improvement associated with each control technology is shown below. See SIP Supplement Table 3-1.

Three-Year Delta Deciview Ranking Summary

The 8th day in any year or the 22nd day over the 3 year period, are the 98th percentile days.

Class I Area	Visibility Criterion	Baseline Emissions	Control Scenario 1SNCR	Control Scenario 2Flex Fuel	Control Scenario 3Flex Fuel	Control Scenario 4SCR
Alpine Lakes Wilderness	Max 98% value (8th high) in any year	4.871	4.393	3.564	2.949	3.057
	3-yrs Combined 98% value (22nd high)	4.346	3.844	2.994	3.057	2.531
Glacier Peak Wilderness	Max 98% value (8th high) in any year	3.615	3.209	2.403	2.049	2.036
	3-yrs Combined 98% value (22nd high)	2.622	2.294	1.905	1.532	1.562
Goat Rocks	Max 98% value (8th high) in any	4.993	4.398	3.676	3.069	3.137

Wilderness	year					
	3-yrs Combined 98% value (22nd high)	4.286	3.708	3.108	2.637	2.385
Mt. Adams Wilderness	Max 98% value (8th high) in any year	3.628	3.118	2.646	2.194	1.984
	3-yrs Combined 98% value (22nd high)	3.628	3.152	2.591	2.147	1.934
Mt. Hood Wilderness	Max 98% value (8th high) in any year	3.471	3.051	2.345	1.978	2.082
	3-yrs Combined 98% value (22nd high)	2.830	2.388	1.997	1.665	1.543
Mt. Jefferson Wilderness	Max 98% value (8th high) in any year	2.079	1.784	1.399	1.150	1.159
	3-yrs Combined 98% value (22nd high)	1.888	1.596	1.267	1.053	1.061
Mt. Rainier National Park	Max 98% value (8th high) in any year	5.447	4.774	4.318	3.606	3.359
	3-yrs Combined 98% value (22nd high)	5.489	4.743	4.225	3.501	3.275
Mt. Washington Wilderness	Max 98% value (8th high) in any year	2.027	1.756	1.323	1.106	1.170
	3-yrs Combined 98% value (22nd high)	1.414	1.248	1.323	0.737	0.855
North Cascades National Park	Max 98% value (8th high) in any year	2.821	2.496	1.852	1.570	1.658
	3-yrs Combined 98% value (22nd high)	2.212	1.887	1.486	1.570	1.183
Olympic National Park	Max 98% value (8th high) in any year	4.645	4.040	3.192	2.695	2.506
	3-yrs Combined 98% value (22nd high)	4.024	3.456	2.991	2.486	2.339
Pasayten Wilderness	Max 98% value (8th high) in any year	1.954	1.701	1.287	1.075	1.160
	3-yrs Combined 98% value (22nd high)	1.482	1.318	0.999	0.822	0.864
Three Sisters Wilderness	Max 98% value (8th high) in any year	2.172	1.910	1.333	1.139	1.172
	3-yrs Combined 98% value (22nd	1.538	1.328	0.993	0.819	0.902

	high)					

Ecology also evaluated the energy and non-air environmental impacts associated with the technically feasible control options. Upon review, Ecology found there would be insignificant energy and non-air environmental impacts from installation of the technically feasible control options. The State did recognize that ammonia slip from SNCR could cause an increase in secondary aerosol due to the increase in ammonia in the atmosphere, but found that this will be limited by an optimization study during the first year of operation of SNCR.

Based on its full consideration of the BART factors as described above, Washington determined BART for NOx for the TransAlta plant is 0.21 lb/mmbtu based on installation and operation of SNCR plus Flex Fuel. The State's BART determination also requires the use of sub-bituminous coal from the Powder River Basin, or other coal that will achieve similar emission rates, and a requirement to optimize SNCR for the lowest NOx emissions while minimizing ammonia slip. The BART determination allows for the NOx limit to be revised reflecting the optimization to a level no higher than 0.21 lb/mmbtu. See SIP Supplement, Table 4-1 at L-75 and Revised BART Compliance Order Section 5.5.3. The Revised BART Compliance Order also requires one coal fired unit to permanently cease burning coal no later than December 31, 2020 and the second coal fired unit to permanently cease burning coal no later than December 31, 2025 unless Ecology determines that state or federal law requires that SCR must be installed on either unit. Revised BART Compliance Order Section 4. The BART determination results in approximately a 30% NOx reduction from the existing NOx emission limit of 0.302 and 0.306 lb/mmBtu.

B. EPA's Assessment of the State's BART Determination

EPA reviewed Washington's SIP submittal, including the December 22, 2010 Regional Haze Submittal and the December 29, 2011 SIP Supplement. Washington followed 40 CFR 308(e) and EPA BART Guidelines of Appendix Y in determining BART for TransAlta. Washington evaluated NOx controls taking into consideration the 5 factors for making a BART determination.

Ecology evaluated 37 different NOx control technologies during its RACT review process for TransAlta in 1997. That analysis was supplemented and updated as part of their 2011 BART determination for the facility. EPA believes that Washington appropriately determined the costs of compliance, including the cost effectiveness of alternative controls. The initial cost estimates were determined by TransAlta's contractor CH2MHill and reviewed by Washington. Where Washington determined that the CH2MHill analysis was lacking detail, Washington requested and received additional information. The costs were generally based on EPA's Cost Control Manual, but deviations were used where appropriate based on the physical constraints at the TransAlta facility. For example, the plant currently employs wet limestone forced oxidation to control SO2 emissions, electrostatic precipitators followed by wet scrubbing systems to control particulate matter, and low NOx burners with close coupled overfire air to control NOx emissions. These existing controls occupy space in the exhaust ducting minimizing space for additional controls for NOx. Therefore, additional control equipment would require the redesign and installation of additional support structures, as well as the potential relocation of existing control equipment, thus increasing the cost of additional NOx control. For example, SNCR would need to be located in an area where the exhaust temperature is around 2100^{o} F, and existing SCR requires cooler temperatures, both of which would require a redesign of support structures.

As previously explained, Washington determined that there are insignificant energy and non-air environmental impacts from either SNCR plus flex fuel or SCR. We acknowledge that either SNCR or SCR will require an insignificant amount of additional energy. As the State recognized, ammonia slip, or excess ammonia in the exhaust gasses from SNCR, can cause fouling of the air heater requiring excessive maintenance as well as increased particulate formation in the atmosphere through secondary aerosol formation to ammonium sulfate and ammonium nitrate. However, this potential impact is minimized by the ammonia limit of 0.5 parts per million and the required optimization protocol. As discussed above, Ecology recognized that the facility previously installed BART for SO2 and particulate matter and improved NOx control and EPA believes that these controls were appropriately considered in evaluating the emission reductions and NOx control costs in making the BART determination.

As described above, Ecology evaluated the degree of visibility improvement anticipated from the use of possible NOx control technologies. Washington appropriately determined that the NOx BART determination will result in visibility improvement in Mt Rainier National Park by 2.0 dv on the 20% most impaired days and improve visibility in 11 other Class I areas.

The specific BART emission limits and compliance dates, along with the requirements for the optimization study, monitoring, record keeping and reporting requirements, are included in the Revised BART Compliance Order. Upon EPA approval of this portion of the Regional Haze SIP Submittal, the Order becomes federally enforceable for purposes of the Washington Regional Haze SIP. Finally, pursuant to Washington's visibility protection program, WAC 173-400-151, the controls required by the State's BART determination must be installed as expeditiously as possible but in no event later than five years from when the State's Regional Haze SIP amendment is approved by EPA. More specifically, the Revised BART Compliance

Order, which was included in the update to the Regional Haze SIP submission, provides that "[b]eginning on the 31st operating day after December 31, 2012 the NOx emissions limitation for the two coal fired utility steam generating units is 0.21 lb/mmbtu, 30 operating day average, both units averaged together including all emissions during start-up and shut-down." SIP Supplement L-30 (Revised BART Compliance Order section 1.1) Therefore, this satisfies the requirement in 40 CFR 51.308(e)(1)(iv) that "each source subject to BART install and operate BART as expeditiously as possible, but in no event later than 5 years after approval of the implementation plan approval."

For the above reasons, EPA agrees with Ecology's analysis and its the selection of BART for NOx at the TransAlta plant because the analyses were conducted in a manner that is consistent with EPA's BART Guidelines. Additionally, the conclusions reflect a reasonable application of EPA's guidance to this particular source. Therefore, EPA proposes to approve the NOx BART determination for TransAlta as meeting the requirements of 40 CFR 51.308(e).

IV. What Action is EPA Proposing?

For the reasons explained above, and in recognition of the State legislation and the Revised BART Compliance Order which result in the decommissioning of the coal-fired units by 2020 and 2025, EPA is proposing to approve the BART determination for TransAlta, including the Revised BART Compliance Order. The BART determination requires SNCR plus Flex Fuel as BART for the TransAlta coal-fired power plant with an emission limit of 0.21 lb/mmBtu with a 30 day rolling average beginning January 31, 2013, including fuel quality requirements and the allowance for a revised NOx emission limit not to exceed 0.21 lb/mmbtu.

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 Order 12866 (58 FR 51735, October 4, 1993);
- 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 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, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the rule neither imposes substantial direct compliance costs on tribal governments, nor preempts tribal law. Therefore, the requirements of section 5(b) and 5(c) of the Executive Order do not apply to this rule. Consistent with EPA policy, EPA nonetheless provided a consultation opportunity to Tribes in Idaho, Oregon and Washington in letters dated January 14, 2011. EPA received one request for consultation, and we have followed-up with that Tribe.

List of Subjects in 40 CFR Part 52

Air pollution control, Environmental protection, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Visibility, and Volatile organic compounds.

Dated: May 14, 2012

Michelle L. Pirzadeh

Acting Regional Administrator,

Region 10.

[FR Doc. 2012-12504 Filed 05/22/2012 at 8:45 am; Publication Date: 05/23/2012]