ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R06-OAR-2010-0190; FRL-]

Approval and Promulgation of Implementation Plans; Oklahoma; Federal Implementation Plan for Interstate Transport of Pollution Affecting Visibility and Best Available Retrofit Technology Determinations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is partially approving and partially disapproving a revision to the Oklahoma State Implementation Plan (SIP) submitted by the State of Oklahoma through the Oklahoma Department of Environmental Quality on February 19, 2010, intended to address the regional haze requirements of the Clean Air Act (CAA). In addition, EPA is partially approving and partially disapproving a portion of a revision to the Oklahoma SIP submitted by the State of Oklahoma on May 10, 2007 and supplemented on December 10, 2007 to address the requirements of CAA section 110(a)(2)(D)(i)(II) as it applies to visibility for the 1997 8-hour ozone and 1997 fine particulate matter National Ambient Air Quality Standards. This CAA requirement is intended to prevent emissions from one state from interfering with the visibility programs in another state. EPA is approving certain core elements of the SIP including Oklahoma's (1) determination of baseline and natural visibility conditions, (2) coordinating regional haze and reasonably attributable visibility impairment, (3) monitoring strategy and other

implementation requirements, (4) coordination with states and Federal Land Managers, and (5) a number of NOx, SO_2, and PM BART determinations. EPA is finding that Oklahoma's regional haze SIP did not address the sulfur dioxide Best Available Retrofit Technology requirements for six units in Oklahoma in accordance with the Regional Haze requirements, or the requirement to prevent interference with other states' visibility programs. EPA is promulgating a Federal Implementation Plan to address these deficiencies by requiring emissions to be reduced at these six units. This action is being taken under section 110 and part C of the CAA.

DATES: This final rule is effective on: **[Insert date 30 days from date of publication in the Federal Register]**.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R06-OAR-2010-0190. All documents in the docket are listed in the Federal eRulemaking portal index at *http://www.regulations.gov* and are available either electronically at *http://www.regulations.gov* or in hard copy at EPA Region 6, 1445 Ross Ave., Dallas, TX, 75202-2733. To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed in the **FOR FURTHER INFORMATION CONTACT** section. A reasonable fee may be charged for copies.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION: Throughout this document wherever ‘‘we,’’ ‘‘us,’’ ‘‘our,’’ or “the Agency” is used, we mean the EPA.

Overview

The CAA requires that states develop and implement SIPs to reduce the pollution that causes visibility impairment over a wide geographic area, known as Regional Haze (RH). CAA sections 110(a) and 169A. Oklahoma submitted a RH plan to us on February 19, 2010. On March 22, 2011, we proposed to partially approve and partially disapprove certain elements of Oklahoma’s SIP. 76 FR 16168. Today, we are taking final action by partially approving and partially disapproving the elements of Oklahoma's RH SIP addressed in our proposed rule. As discussed in the proposal for this rule, the CAA requires us to promulgate a Federal Implementation Plan (FIP) if a state fails to make a required SIP submittal or we find that the state’s submittal is incomplete or unapprovable. CAA section 110(c)(1). Therefore, we are promulgating a FIP to address the deficiencies in Oklahoma's RH plan.

One important element of the RH requirements of the CAA is that the Best Available Retrofit Technology (BART) must be selected and implemented for certain sources. The process of establishing BART emission limitations can be logically broken down into three steps. First, states identify those sources which meet the definition of ‘‘BART-eligible source’’ set forth in 40 CFR 51.301. Second, states determine whether such sources ‘‘emit any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area’’ (a source which fits this description is ‘‘subject to BART’’). Third, for each source subject to BART, states then identify the appropriate type and the level of control for reducing emissions," by conducting a five-step analysis: Step 1: Identify All Available Retrofit Control Technologies, Step 2: Eliminate Technically Infeasible Options, Step 3: Evaluate Control Effectiveness of Remaining Control Technologies, Step 4: Evaluate Impacts and Document the Results, and Step 5: Evaluate Visibility Impacts.

We agree with Oklahoma's identification of sources that are BART eligible and subject to BART. In addition, we are approving a number of BART determinations from Oklahoma's RH SIP. We are not able to approve Oklahoma's sulfur dioxide (SO_2) BART determinations for the OG&E's Sooner Units 1 and 2, the OG&E Muskogee Units 4 and 5, and the AEP/PSO Northeastern Units 3 and 4. In reviewing the SO_2 BART determinations for these six units,[1] we noted the state's cost estimates for SO_2 scrubbers were high in comparison to other similar units, and we therefore separately assessed the costs of installation of controls for these units using well established costing methodologies for BART determinations. As a result of this review, we proposed disapproval of the Oklahoma's SO_2 BART determinations for these six units because the Oklahoma's costing methodology was not in accordance with RH requirements. Consistent with the disparity in cost estimations we identified in our proposed disapproval, our revised cost estimate indicates that dry scrubber control technology is about ½ to ¾ less expensive than was calculated by Oklahoma. We have therefore determined it is appropriate to finalize our proposed disapproval of the Oklahoma's SO_2 BART determinations for the six units, because we conclude that the flaws in the state's cost estimations were significant, and that the state therefore lacked

[1] When we say ''six BART sources,'' or ''six units,'' we mean Units 4 and 5 of the Oklahoma Gas and Electric Muskogee plant in Muskogee County; Units 1 and 2 of the Oklahoma Gas and Electric Sooner plant in Noble County; and Units 3 and 4 of the American Electric Power/Public Service Company of Oklahoma Northeastern plant in Rogers County.

adequate record support and a reasoned basis for its determinations regarding the cost effectiveness of controls as needed for the final steps of the BART analysis and as required by the RH Rule (RHR). We are also disapproving the state's submitted Long Term Strategy because it relies on these BART limits which we are disapproving. We will of course consider, and would prefer, approving a SIP if the state submits a revised plan for these units that we can approve.

We are approving the remaining sections of the RH SIP submission. This includes certain core elements of the SIP including Oklahoma's (1) determination of baseline and natural visibility conditions, (2) coordinating regional haze and reasonably attributable visibility impairment, (3) monitoring strategy and other implementation requirements, (4) coordination with states and Federal Land Managers, and (5) the following BART determinations from Oklahoma's RH SIP:

- The $SO_{2,}$, nitrogen oxides (NO_X), and particulate matter (PM) BART determinations for the Oklahoma Gas and Electric (OG&E) Seminole Units 1, 2, and 3.
- The NO_X and PM BART determinations for OG&E's Sooner Units 1 and 2.
- The NO_X and PM BART determinations for the OG&E Muskogee Units 4 and 5.
- The SO_2, NO_X, and PM BART determinations for the American Electric Power/Public Service Company of Oklahoma (AEP/PSO) Comanche Units 1 and 2.
- The SO_2, NO_X, and PM BART determinations for the AEP/PSO Northeastern

Unit 2.

- The NO_X and PM BART determination for the AEP/PSO Northeastern Units 3 and 4.
- The SO_2, NO_X, and PM BART determination for the AEP/PSO Southwestern Unit 3.

In addition to the Regional Haze Requirements, CAA section 110(a)(2)(D)(i)(II) requires that the Oklahoma SIP ensure that emissions from sources within Oklahoma do not interfere with measures required in the SIP of any other state under part C of the CAA to protect visibility. This requirement is commonly referred to as the visibility prong of “interstate transport,” which is also called the “good neighbor” provision of the CAA. Oklahoma submitted a SIP to meet the requirements of interstate transport for the 1997 8-hour ozone National Ambient Air Quality Standards (NAAQS) and the fine particulate matter ($PM_{2.5}$) NAAQS on May 10, 2007, and supplemented it on December 10, 2007. In the May 10, 2007, submittal, Oklahoma stated that it intended for its RH submittal to satisfy the requirements of the visibility prong. We proposed to partially approve and partially disapprove this submission as it relied upon the Regional Haze SIP that we were proposing to partially approve and partially disapprove. In evaluating whether Oklahoma’s SIP ensures that emissions from sources within Oklahoma do not interfere with the visibility programs of other states, we found that the regional modeling conducted by the Central Regional Air Programs (CENRAP), participated in by Oklahoma, included reductions at the six units that were not required by the Oklahoma SIP. Since this modeling was used by other states and Oklahoma in establishing their Reasonable Progress Goals, we find that the Oklahoma SIP does not ensure that emissions from sources within Oklahoma do not interfere with measures required in the SIP of any other state under Part C of the CAA to protect visibility.

To address the deficiencies identified in our disapproval of these SO_2 BART determinations and the disapproval of the SIP submission as it pertains to the visibility prong of interstate transport, we are finalizing a FIP to control emissions from the six units. Our FIP requires that these six units reduce emissions of SO_2 to improve the scenic views at four national parks and wilderness areas: the Caney Creek and Upper Buffalo Wilderness Areas in Arkansas, the Wichita Mountains National Wildlife Refuge in Oklahoma, and the Hercules Glades Wilderness Area in Missouri. Improved air quality also results in public health benefits. This FIP can be replaced by a future state plan that meets the applicable CAA requirements.

All six units are coal-fired electricity generating units. Our FIP requires the six units to reduce their SO_2 pollution to an emission rate of 0.06 pounds per million BTU, calculated on the basis of a rolling 30 boiler operating day average. This can be accomplished by retrofitting the six units with dry flue gas desulfurization technology, commonly known as "SO_2 scrubbers." In addition, any technology that can meet this SO_2 emission limit may be implemented at the six subject units. For example, EPA believes that these limits can also be met by wet scrubbing technology or switching to natural gas.

We held a 60 day public comment period on this action, and an open house and a public hearing in both Tulsa and Oklahoma City. Many public commenters disagreed with aspects of our cost analysis for SO_2 BART for the six affected units. After careful review of information provided during the public comment period, we revised our calculation of the total project cost for the four OG&E units from our proposed range of approximately $312,423,000 to $605,685,000, to our final range of approximately $589,237,000 to $607,461,000. We made no changes to the cost basis for the two AEP/PSO units from our proposal. As such, the associated cost investment for AEP/PSO is $274,100,000. Even with these changes to our cost analysis we conclude that we cannot approve the SIP's SO_2 emission limits and instead must adopt the proposed emission limits for the six units. However, in consideration of comments about the time needed to comply with our FIP, we have extended the time for compliance with the SO_2 emission limit from the proposed three years to five years.

This investment will reduce the visibility impacts due to these facilities by over 60 to 80% at each one of the four national parks and wilderness areas in the area, and promote local tourism by decreasing the number of days when pollution impairs scenic views. Although today's action is taken to address visibility impairments, we believe it will also reduce public health impacts by decreasing SO_2 pollution by approximately 95%.

This action is being taken under section 110 and part C of the CAA.

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I. Summary of Our Proposal

On March 22, 2011, we published the proposal on which we are now taking final action. 76 FR 16168. We proposed to partially approve and partially disapprove Oklahoma's RH SIP revision submitted on February 19, 2010. We also proposed to partially approve and partially disapprove a portion of a SIP revision we received from the State of Oklahoma on May 10, 2007, as supplemented on December 10, 2007, for the purpose of addressing the "good neighbor" provisions of the CAA section 110(a)(2)(D)(i)(II) with respect to visibility for the 1997 8-hour ozone NAAQS and the $PM_{2.5}$ NAAQS.

A. Regional Haze

We proposed to approve Oklahoma's determination that Units 4 and 5 of the OG&E Muskogee plant, Units 1 and 2 of the OG&E Sooner plant, and Units 3 and 4 of the AEP/PSO Northeastern plant are subject to BART under 40 CFR 51.308(e). However, we proposed to disapprove the SO_2 BART determinations for Units 4 and 5 of the OG&E Muskogee plant; Units 1 and 2 of the OG&E Sooner plant; and Units 3 and 4 of the AEP/PSO Northeastern plant because they do not comply with our regulations under 40 CFR 51.308(e). We also proposed to disapprove the long term strategy (LTS) under section 51.308(d)(3) because Oklahoma has not shown that the strategy is adequate to achieve the reasonable progress goals set by Oklahoma and by other nearby states. The visibility modeling Oklahoma used to support its SIP revision submittal assumed SO_2 reductions from the six sources identified above that Oklahoma did not secure when making its BART determinations for these sources. The Oklahoma Department of Environmental Quality (ODEQ) participated in the Central Regional Air Planning Association (CENRAP) visibility modeling development that assumed certain SO_2 reductions from these six BART sources. ODEQ also consulted with other states with the understanding that these reductions would be secured. We proposed a FIP to address these defects in BART and the LTS.

We proposed a FIP that included SO_2 BART emission limits on these sources. We proposed that SO_2 BART for Units 4 and 5 of the OG&E Muskogee plant, Units 1 and 2 of the OG&E Sooner plant, and Units 3 and 4 of the AEP/PSO Northeastern plant is an SO_2 emission limit of 0.06 lbs/MMBtu that applies individually to each of these units on a rolling 30 day calendar average. Additionally, we proposed monitoring, recordkeeping, and reporting requirements to ensure compliance with these emission limitations. We proposed that compliance with the emission limits be within three years of the effective date of our final rule. We solicited comments on alternative timeframes, of from two years up to five years from the effective date our final rule. We also proposed that, should OG&E and/or AEP/PSO elect to reconfigure the above units to burn natural gas as a means of satisfying their BART obligations under section 51.308(e), conversion should be completed within the same time frame. We solicited comments as to, considering the engineering and/or management challenges of such a fuel switch, whether the full five years allowed under section 51.308(e)(1)(iv) following our final approval would be appropriate.

We proposed to disapprove section VI.E of the Oklahoma RH SIP entitled, ‘‘Greater Reasonable Progress Alternative Determination.’’ We also proposed to disapprove the separate executed agreements between ODEQ and OG&E, and ODEQ and AEP/PSO entitled ‘‘OG&E Regional Haze Agreement, Case No. 10–024, and ‘‘PSO Regional Haze Agreement, Case No. 10–025,’’ housed within Appendix 6–5 of the RH SIP. We proposed that these portions of the submittal are severable from the BART determinations and the LTS. These alternative determinations are not fundamental requirements of a RH program, so disapproval of them does not create a regulatory gap in the SIP. Therefore, no FIP is required.

We proposed no action on whether Oklahoma has satisfied the reasonable progress requirements of EPA’s regional haze SIP requirements found at section 51.308(d)(1).

We also proposed to approve the remaining sections of the RH SIP submission.

B. Interstate Transport of Pollutants and Visibility Protection

We proposed to partially approve and partially disapprove a portion of a SIP revision we received from the State of Oklahoma on May 10, 2007, as supplemented on December 10, 2007, for the purpose of addressing the “good neighbor” provisions of the CAA section 110(a)(2)(D)(i) with respect to visibility for the 1997 8-hour ozone NAAQS and the $PM_{2.5}$ NAAQS. This proposal addressed the requirement of section 110(a)(2)(D)(i)(II) that emissions from Oklahoma sources do not interfere with measures required in the SIP of any other state under part C of the CAA to protect visibility.

Having proposed to disapprove these provisions of the Oklahoma SIP, we proposed a FIP to address the requirements of section 110(a)(2)(D)(i)(II) with respect to visibility to ensure that emissions from sources in Oklahoma do not interfere with the visibility programs of other states. We proposed to find that that the controls proposed under the proposed FIP, in combination with the controls required by the portion of the Oklahoma RH submittal that we proposed to approve, will serve to prevent sources in Oklahoma from emitting pollutants in amounts that will interfere with efforts to protect visibility in other states.

II. Final Decision

A. Regional Haze

We are partially approving, partially disapproving, and taking no action on various portions of Oklahoma’s RH SIP revision submitted on February 19, 2010. We are finalizing a FIP to address the defects in those portions of this SIP that are mandatory requirements that we are disapproving.

We are disapproving the SO_2 BART determinations for Units 4 and 5 of the Oklahoma OG&E Muskogee plant; Units 1 and 2 of the OG&E Sooner plant; and Units 3 and 4 of the AEP/PSO Northeastern plant. We are disapproving the LTS under section 51.308(d)(3).

We are finalizing a FIP that specifically imposes SO_2 BART emission limits on these sources. We find that SO_2 BART for Units 4 and 5 of the OG&E Muskogee plant, Units 1 and 2 of the OG&E Sooner plant, and Units 3 and 4 of the AEP/PSO Northeastern plant is an SO_2 emission limit of 0.06 lbs/MMBtu that applies individually to each of these units. As we discuss elsewhere in this action and in a supplemental response to comments document (Supplemental RTC),[2] we find there is ample support for this decision. However, in response to a comment we received, we are changing our proposed averaging period for these emission limits from a straight rolling 30 day calendar average to one calculated on the basis of a boiler operating day (BOD). We also received a comment requesting that we revise our proposed unit-by-unit SO_2 limit, and replace it with a plant wide average SO_2 limit. As we note in our response to this comment, although we are open to combining the BOD and plant wide averaging techniques, this presents a significant technical challenge in having a verifiable, workable, and enforceable algorithm for calculating such an average. Due to our obligation to ensure the enforceability of the emission limits we are imposing in our FIP and the technical challenges of meeting that obligation through a plant wide limit, we are not including a plant wide average SO_2 limit in our final FIP. We leave it to Oklahoma to take up this matter in a future SIP revision, should it

[2] The full title of the Supplemental RTC document is the “Response to Technical Comments for Sections E through H of the Federal Register Notice for the Oklahoma Regional Haze and Visibility Transport FIP,” and it is available in the docket for this rulemaking. This document is referred to as the “Supplemental RTC” throughout this rulemaking. We received many lengthy, and highly technical, comments concerning our SO_2 BART cost analysis, the visibility improvement analysis, the emission limit, and the compliance timeframe. While this notice generally addresses all of the issues commenters raised, the Supplemental RTC is intended to address comments on these four categories in greater detail.

decide to do so. We are confident that this issue can be addressed prior to the installation of the emission controls required to satisfy our FIP.

We are promulgating monitoring, recordkeeping, and reporting requirements to ensure compliance with these emission limitations.

We are disapproving section VI.E of the Oklahoma RH SIP entitled, “Greater Reasonable Progress Alternative Determination.” We are also disapproving the separate executed agreements between ODEQ and OG&E, and ODEQ and AEP/PSO entitled “OG&E Regional Haze Agreement, Case No. 10–024,” and “PSO Regional Haze Agreement, Case No. 10–025,” housed within Appendix 6–5 of the RH SIP. We find that these portions of the submittal are severable from the BART determinations and the LTS. These alternative determinations are not fundamental requirements of a RH program, so disapproval of them does not create a gap in the SIP. For these reasons, no FIP is required.

We are taking no action on whether Oklahoma has satisfied the reasonable progress requirements of EPA’s RH SIP requirements found at section 51.308(d)(1).

We are approving the remaining sections of the RH SIP submission. This includes certain core elements of the SIP including Oklahoma’s (1) determination of baseline and natural visibility conditions, (2) coordinating regional haze and reasonably attributable visibility impairment, (3) monitoring strategy and other implementation requirements, (4) coordination with states and Federal Land Managers, and (5) the following BART determinations from Oklahoma's RH SIP:

- The $SO_{2,}$, nitrogen oxides (NO_X), and particulate matter (PM) BART determinations for the Oklahoma Gas and Electric (OG&E) Seminole Units 1, 2, and 3.
- The NO_X and PM BART determinations for OG&E's Sooner Units 1 and 2.
- The NO_X and PM BART determinations for the OG&E Muskogee Units 4 and 5.
- The SO_2, NO_X, and PM BART determinations for the American Electric Power/Public Service Company of Oklahoma (AEP/PSO) Comanche Units 1 and 2.
- The SO_2, NO_X, and PM BART determinations for the AEP/PSO Northeastern Unit 2.
- The NO_X and PM BART determination for the AEP/PSO Northeastern Units 3 and 4.
- The SO_2, NO_X, and PM BART determination for the AEP/PSO Southwestern Unit 3.

B. Interstate Transport of Pollutants and Visibility Protection

We are partially approving and partially disapproving a portion of a SIP revision we received from the State of Oklahoma on May 10, 2007, as supplemented on December 10, 2007, for the purpose of addressing the “good neighbor” provisions of the CAA section 110(a)(2)(D)(i) with respect to visibility for the 1997 8-hour ozone NAAQS and the $PM_{2.5}$ NAAQS.

We are finalizing a FIP to address the requirements of section 110(a)(2)(D)(i)(II) with respect to visibility to ensure that emissions from sources in Oklahoma do not interfere with the visibility programs of other states. We find that the controls under this FIP, in combination with the controls required by the portion of the Oklahoma RH submittal that we are approving, will serve to prevent sources in Oklahoma from emitting pollutants in amounts that will interfere with efforts to protect visibility in other states.

C. Compliance Timeframe

In response to comments we received, we find that compliance with the emission limits of our FIP must be within five years of the effective date of this rule. This compliance timeframe includes the election to reconfigure the six units to burn natural gas.

III. Analysis of Major Issues Raised by Commenters

We received both written comments and oral comments at the Public Hearings in Oklahoma City and Tulsa. We also received comments by the internet and the mail. The comments are summarized and discussed below. The full text received from these commenters is included in the docket associated with this action.

A. Comments Generally Favoring our Proposal

Comment: We received many letters in support of our rulemaking from members representing various organizations that were similar in content and format, and are represented by two types of positive comment letters in the docket for this rulemaking. Each of these comment letters supports our proposed decision for the six coal units identified above. More than 500 of these letters specifically urge us to require emissions reductions from these six units in our final decision.

We received two letters from Federal Land Managers in support of this rulemaking. These comments include support for our proposed disapproval of the Long Term Strategy under Section 51.308(d)(3) and our proposed disapproval of the Greater Reasonable Progress Alternative Determination (section 51.308), as well as support for our proposed FIP requiring an emissions limitation of 0.06 lb of SO_2/MMBtu for each of the six units identified above. These comments also include agreement that EPA's proposed controls are cost-effective, reasonable and attainable, and that they constitute BART. These letters also included support for requiring compliance with the proposed emission limitations within three years from the effective date of the final rule, but could accept compliance within five years.

At the Public Hearing in Oklahoma City, positive comments were received from representatives of a natural gas producer and from public citizens. Some comments included support for our proposed disapproval of the Oklahoma SIP submittal, as well as for finalizing our proposed FIP. Included with these comments was the belief expressed that not controlling these sources will not make electricity cheap. Another idea presented at this hearing was that, whereas cheap electricity does not make an economy healthy, renewable energy does. Data for eight states was presented, including Washington State in which 75 percent of the electricity comes from renewable resources. Other comments were that clean air is a basic necessity of life and not a luxury, and that clean air is not something that should be traded or bargained away in the name of profit. Further, these comments included encouragement for the shortest possible timeline for compliance.

Comments were also received in support of our proposal at the Public Hearing in Tulsa. One commenter noted that in the background for the proposed FIP, we accepted almost all of the methodologies and conclusions put forth by the ODEQ, with the exception of BART for SO_2 removal. Another commenter mentioned that the concept of being a good neighbor and reducing air pollution is a critical component of the CAA.

Response: We acknowledge these commenters for their support of this action. We also note that several of the specific emissions and timeframe limitations supported by these commenters in the proposal have been modified in this final action based on all of the information received during the comment period. Please see the docket associated with this action for additional detail. Additionally, some of the specific issues that these commenters raised are addressed elsewhere in this notice.

B. Comments Generally Against our Proposal

We received written comments, as well as oral comments at the Public Hearings in Oklahoma City and Tulsa, that generally did not support our proposed rulemaking. Most of these commenters expressed concerns about the economic impact of this rulemaking. Due to the specific nature of these comments, we address them more fully in the remainder of this notice and in the Supplemental RTC. The full text of these comments is included in the docket associated with this action.

We also received one unspecific negative comment from an individual, which did not include documentation, rationale, or data for us to respond to beyond our responses provided elsewhere in this notice.

C. Comments on Legal Issues

1. General Legal Comments

Comment: We received several comment letters questioning whether we have CAA authority to disapprove Oklahoma's BART determination and determine BART through a FIP. These commenters included the Oklahoma Attorney General, OG&E, several industry trade organizations, and AEP/PSO. We also received a comment letter signed by multiple attorneys general from throughout the United States.[3] The commenters generally contend that our proposal would "usurp" or encroach on the state's authority and that EPA lacks the authority to substitute its own judgment or policy preferences for the state's determinations. The Oklahoma

[3] The signatories of this May 2011 comment letter were the attorney generals of Oklahoma, Alabama, Kentucky, Maine, the N. Mariana Islands, South Carolina, Texas, and Utah.

Attorney General comments that our role is “simply one of support” and that state determinations are entitled to “special deference.” Similarly, one commenter states that we cannot “second-guess” the state and redo a BART analysis with no deference to the state’s findings. That commenter also states that we have not articulated any standard under which we may judge the validity of a state’s BART determination.

Response: Congress crafted the CAA to provide for states to take the lead in developing implementation plans, but balanced that decision by requiring EPA to review the plans to determine whether a SIP meets the requirements of the CAA. EPA’s review of SIPs is not limited to a ministerial type of “rubber-stamping” of a state’s decisions. EPA must consider not only whether the state considered the appropriate factors but acted reasonably in doing so. In undertaking such a review, EPA does not “usurp” the state’s authority but ensures that such authority is reasonably exercised. EPA has the authority to issue a FIP either when EPA has made a finding that the state has failed to timely submit a SIP or where EPA has found a SIP deficient. Here, EPA has authority and we have chosen to approve as much of the Oklahoma SIP as possible and to adopt a FIP only to fill the remaining gap. Our action today is consistent with the statute. In finalizing our proposed determinations, we are approving the state’s determinations in identifying BART eligible sources and largely approving the state’s BART determinations for thirteen different emission units subject to BART. We are, however, disapproving the state’s SO_2 BART determinations for six of those units. As explained in the proposal, the state’s SO_2 BART determinations for the six OG&E and AEP/PSO units are not approvable because ODEQ “did not properly follow the requirements of section 51.308(e)(1)(ii)(A).” 76 FR 16168, at 16182. Specifically, ODEQ did not properly “take into consideration the costs of compliance," when it relied on cost estimates that greatly overestimated the costs of controls. We have determined that the faults in ODEQ's cost methodology were significant enough that they resulted in BART determinations for SO_2 that were both unreasoned and unjustified. Accordingly, those determinations that relied on significantly flawed cost estimations are not approvable.

In the absence of approvable BART determinations in the SIP for SO_2 for BART eligible sources in Oklahoma, we are obliged to promulgate a FIP to satisfy the CAA requirements. Likewise, in the absence of an approvable SIP that addresses the requirement that emissions from Oklahoma sources do not interfere with measures required in the SIP of any other state to protect visibility, we are obliged to promulgate a FIP to address the defect. This authority and responsibility exists under CAA section 110(c)(1). We also are required by the terms of a consent decree with WildEarth Guardians, lodged with the U.S. District Court for the Northern District of California to ensure that Oklahoma's CAA requirements for 110(a)(2)(D)(i)(II) are finalized by December 13, 2011. Because we have found the state's SIP submissions do not adequately satisfy either requirement in full and because we have previously found that Oklahoma failed to timely submit these SIP submissions, we have not only the authority but a duty to promulgate a FIP that meets those requirements. Our action in large part approves the RH SIP submitted by Oklahoma; the disapproval of the SO_2 BART determinations and imposition of the FIP is not intended to encroach on state authority. This action is only intended to ensure that CAA requirements are satisfied using our authority under the CAA. We note that Oklahoma may submit a new SIP revision addressing the issue of SO_2 controls for these six units, in which case we will assess it against Clean Air Act and Regional Haze Rule requirements as a possible replacement for the FIP.

Comment: Multiple commenters have cited to various CAA statutory provisions to support their contention that the State of Oklahoma has authority or "primary authority," where EPA has no authority or lesser authority. On this point, commenters have cited CAA Sections 169A(b)(2)(A) and 169A(g)(2). Specifically, Section 169A(b)(2)(A) reads in part that regulations to protect visibility shall require the installation and operation of BART "as determined by the State (or the Administrator in the case of a plan promulgated under section 7410(c) of the this title)." Section 169A(g)(2) begins, "in determining [BART] the State (or the Administrator in determining emissions limitations which reflect such technology) shall" take into consideration several requisite statutory factors. The commenters place special emphasis on the references to the "the State" in these provisions and contend that the plain language of the statute provides that states, and not EPA, have authority to determine BART.

Response: We agree that states have authority to determine BART, but we disagree with commenters' assertions that EPA has no authority or lesser authority to determine BART when promulgating a FIP. As the parenthetical in section 169A(b)(2)(A) indicates, the Administrator has the authority to determine BART "in the case of a plan promulgated under section 7510(c)." In other words, the Administrator has explicit authority to determine BART when promulgating a FIP. In our proposal, we stated that we must consider the same factors as states when proposing a FIP to address BART. 76 FR 16168, at 16187. Our BART determination follows the factors prescribed by CAA Section 169A(g)(2). We disagree that the language of the CAA limits our authority to determine BART in the case of a FIP.

Comment: Commenters who have argued that the plain language of the CAA requires that states are the primary or only BART determining authorities have also cited our preamble language from past Federal Register publications that they believe reinforces their contention. For example, several commenters cited 70 FR 39104, at 39107, which reads in part, "the State must determine the appropriate level of BART control for each source subject to BART." Commenters have also cited the preamble to our proposal, where we wrote, "States are free to determine the weight and significance to be assigned to each factor" when making BART determinations. 76 FR 16168, at 16174. Finally, some commenters have stated the preamble of the RHR supports their contentions when it states: "In some cases, the State may determine that a source has already installed sufficiently stringent emission controls for compliance with other programs (e.g., the acid rain program) such that no additional controls would be needed for compliance with the BART requirement." 64 FR 35714, at 35740.

Response: We agree that states are assigned statutory and regulatory authority to determine BART and that many past EPA statements have confirmed state authority in this regard. Although the states have the freedom to determine the weight and significance of the statutory factors, they have an overriding obligation to come to a reasoned determination. As detailed in our proposal and the supporting Technical Support Document (TSD), the state's SO_2 BART determinations for the six OG&E and AEP/PSO units were premised on flawed cost assumptions. Since these SO_2 BART determinations of the state are not approvable, we are obliged to step into the shoes of the state and arrive at our BART determinations.

Comment: Commenters have also cited other CAA provisions. One commenter states that 169A(b) only allows for EPA to issue guidelines with technical and procedural guidance for determining BART, not to issue rules that dictate the outcome (except for fossil-fueled power plants with capacity that exceeds 750 MW). That commenter also contends that our lack of authority relative to the states is shown through CAA Section 169A(f), which provides that the meeting of the national visibility goal is not a "nondiscretionary duty" of the Administrator. AEP/PSO comments that the provisions of CAA Section 169B shows that states have special authority to act together through visibility transport commissions. The Oklahoma Attorney General cites CAA Section 101(a)(3), which provides that air pollution control at its source "is the primary responsibility of States and local governments."

Response: States shoulder significant responsibilities in CAA implementation and in effectuating the requirements of the RHR. EPA has the responsibility of ensuring that state plans, including RH SIPs, conform to CAA requirements. None of the CAA provisions cited by commenters change our conclusion that we have authority to issue a FIP to satisfy BART requirements given that Oklahoma's RH SIP is not fully approvable. We cannot approve a RH SIP that fails to address BART with a reasoned consideration of the costs of compliance. Our inability to approve the state's BART determinations for SO_2 means we must follow through on our non-discretionary duty to promulgate a FIP. Under the CAA, we were required to do this by January 2011, two years after EPA found that Oklahoma failed to submit a RH SIP. 74 FR 2392.

The language of CAA Section 169A(f), which concerns the meeting of the national goal, is not related to the review of a state's BART determinations or our determinations on their adequacy or the timing of our action.

Comment: Many commenters expressed the view that their statutory arguments are reinforced by legislative history of the 1977 CAA amendments. Several commenters refer to statements of Senator Edmund Muskie regarding the conference agreement on the provisions for visibility protection in those amendments. Senator Muskie had stated that under the conference agreement the state, "not the Administrator," identifies BART eligible sources and determines BART. 123 Cong. Rec. 26854 (August 4, 1977). Commenters have also noted that *Am. Corn Growers Ass'n v. EPA*, 291 F.3d 1 (D.C. Cir. 2002) used legislative history, including the Conference Report on the 1977 amendments, when the Court had invalidated past regulatory provisions regarding BART for constraining state authority. The Court stated that the Conference report confirmed that Congress "intended the states to decide which sources impair visibility and what BART controls apply to those sources."

Response: We agree that the CAA places the requirements for determining BART for BART-eligible sources on states. As discussed above, the CAA also requires the Administrator to determine BART in the absence of an approvable determination from the state. Because we have determined that Oklahoma's BART determinations for SO_2 for the six OG&E and AEP/PSO units do not conform with section 51.308(e) and are not approvable, we are authorized and at this time required to promulgate a FIP.

Comment: Several commenters have asserted our proposal is inconsistent with the decision of the D.C. Circuit in *Am. Corn Growers Ass'n v. EPA*, 291 F.3d 1 (D.C. Cir. 2002). They contend that language in the decision affirms their views regarding state authority and EPA's lack of authority in regulating the problem of regional haze. In particular, the *American Corn Growers* decision had described states as playing "the lead role" in designing and implementing regional haze programs, *Id*. at 3, and described the CAA as "giving the states broad authority over BART determinations." *Id*. at 8.

Response: We disagree that our proposal is inconsistent with the *American Corn Growers* decision. We have determined that Oklahoma utilized flawed cost assessments and incorrectly estimated the visibility impacts of controls. We have determined these issues resulted in non-approvable SO_2 BART determinations for the six OG&E and AEP/PSO units. We recognize the state's broad authority over BART determinations, and recognize the state's authority to attribute weight and significance to the statutory factors in making BART determinations. As a separate matter, however, a state's BART determination must be reasoned and based on an adequate record. Although we have largely approved the state's RH SIP, we cannot agree that CAA requirements are satisfied with respect to these SO_2 BART determinations.

Comment: One commenter contends that states have broader authority for regional haze, because it is not a human health-based regulation. Another commenter similarly suggests that states are the "appropriate decision makers" because regional haze is about haze, not health.

Response: We do not agree that the CAA or RHR prescribes a different degree of authority to states based on the program having the goal of improving visibility as opposed to preventing adverse human health effects. Among other things, the CAA requires states to submit plans that satisfy NAAQS standards set to protect both public health and welfare. Nothing in the terms of the CAA or its implementation history directs that SIP submittals addressing visibility are subject to a different standard of evaluation than SIP submittals that directly address public health issues associated with air pollutants. The distinction is not pertinent to state authority to develop RH SIPs and does not diminish our responsibility and authority to require that they conform to the RHR.

Comment: Several commenters have more generally asserted that we lack authority to disapprove the RH SIP, because of past cases where we have lacked authority in particular SIP disapproval actions. These commenters have cited, in particular to *Florida Power & Light Co. v. Costle*, 650 F.2d 579, 581 (5^{th} Cir. 1981) (EPA must approve a SIP that "meets statutory criteria"), *Train v. NRDC*, 421 U.S. 60, 79 (1975), and *Commonwealth of Vir. v. EPA*, 108 F.3d 1397 (D.C. Cir. 1997). Under these cases, the commenters assert that we cannot question the wisdom of a state's choices or require particular control measures if plan provisions satisfy CAA standards.

Response: States are required by the CAA to address the BART requirements in their SIP. Our disapproval of the SO_2 BART determinations in the Oklahoma RH SIP is authorized under the CAA because the state's SO_2 BART determinations for the six OG&E and AEP/PSO units do not satisfy the statutory criteria. The state's analysis of the cost effectiveness of controls was flawed due to reasons discussed elsewhere in this notice. While states have authority to exercise different choices in determining BART, the determinations must be reasonably supported. Oklahoma's errors in taking into consideration the costs of compliance were significant enough that we cannot conclude the state determined BART according to CAA standards. The cases cited by the commenters stress important limits on EPA authority in reviewing SIP submissions, but our disapproval of these SO_2 BART determinations for the six units has an appropriate basis in our CAA authority.

Comment: A citizen commenter asserts that our proposal is indicative of "raw unconstitutional power."

Response: The commenter has cited no specific provisions of the Constitution. In any case, we regard neither the RHR, which has previously been subject to review by the D.C. Circuit, nor our underlying statutory authority for this action to be unconstitutional. We are acting under statutory responsibilities established in the 1977 and 1990 amendments to the CAA. As is the case for any executive agency under the authority of the President, the Constitution has charged us with the implementation and enforcement of laws written by Congress. The administration of the CAA and implementation of the RHR is accordingly not unconstitutional.

Comment: AEP/PSO and another commenter have commented that our proposed action improperly combines matters under Oklahoma's RH SIP with unrelated matters addressed in the 2007 Interstate Transport SIP. Both commenters have stated that our disapproval of the Interstate Transport SIP would be inconsistent with our guidance in 2006. They contend our

2006 guidance had suggested conclusions regarding whether emissions from any one state could interfere with measures of neighboring states to protect visibility could only be reached when a neighboring state's RH SIP had been approved. These commenters believe Oklahoma's Interstate Transport SIP obligations under CAA Section 110(a)(2)(D)(i)(II) can be approved because there were no EPA-approved regional haze SIPs at the time of submittal or when we reviewed the Oklahoma submission.

Response: We disagree with contention of the commenters that RH SIP requirements and the visibility requirements of section 110(a)(2)(D)(i)(II) are unrelated. We are addressing them simultaneously because the purposes and requirements of the interstate transport provisions of the CAA with respect to visibility and the RH program are intertwined. Section 110(a)(2)(D)(i)(II) does not explicitly define what is required in SIPs to prevent the prohibited impact on visibility in other states. However, because the RH program requires measures that must be included in SIPs specifically to protect visibility, EPA's 2006 Guidance[4] recommended that RH SIP submissions meeting the requirements of the visibility program could satisfy the requirements of CAA section 110(a)(2)(D)(i)(II) with respect to visibility. Subsequently, in instances in which some states did not make the RH SIP submission, in whole or in part, or did not make an approvable RH SIP submission, we evaluated whether those states could comply with section 110(a)(2)(D)(i)(II) by other means. Thus, we have elsewhere determined that states may also be able to satisfy the requirements of CAA section 110(a)(2)(D)(i)(II) with something less than an approved RH SIP, see, for example, our determinations regarding Colorado (76 FR

[4] See,"Guidance for State Implementation Plan (SIP) Submissions to Meet Current Outstanding Obligations Under Section 110(a)(2)(D)(i)for the 8-Hour Ozone and PM 2.5 National Ambient Air Quality Standards," from William T. Harnett, Director Air Quality Policy Division, OAQPS, to Regional Air Division Director, Regions I-X, dated August 15, 2006 (the "2006 Guidance").

22036) and Idaho (76 FR 36329). In other words, an approved RH SIP is not the only possible means to satisfy the requirements of CAA section 110(a)(2)(D)(i)(II) with respect to visibility; however, such a SIP could be sufficient. Given this reasoning, we do not agree with commenters' contentions that our action improperly combines two unrelated programs.

Regarding our guidance on submissions in August of 2006, we explicitly stated that “at this point in time,” it was not possible to assess whether emissions from sources in the state would interfere with measures in the SIPs of other states. As subsequent events have demonstrated, we were mistaken as to the assumption that all states would submit RH SIPs in December of 2007, as required by the RHR, and mistaken as to the assumption that all such submissions would meet applicable RH program requirements and therefore be approved shortly thereafter. Thus the premise of the 2006 Guidance that it would be appropriate to await submission and approval of such RH SIPs before evaluating SIPs for compliance with section 110(a)(2)(D)(i)(II) was in error. Our 2006 Guidance was clearly intended to make recommendations that were relevant at that point in time, and subsequent events have rendered it inappropriate in this specific action. We must therefore act upon Oklahoma’s submission in light of the actual facts, and in light of the statutory requirements of section 110(a)(2)(D)(i). In order to evaluate whether the state's SIP currently in fact contains provisions sufficient to prevent the prohibited impacts on the required programs of other states, we are obligated to consider the current circumstances and investigate the level of controls at Oklahoma sources and whether those controls are or are not sufficient to prevent such impacts.

We reject the argument that Oklahoma's submittal should be approvable because surrounding states have yet to submit RH SIPs that have been approved. The argument fails to address what would happen if a downwind state were never to submit the required RH SIP, or were never to submit a RH SIP that was approvable. On its face, the commenter's argument is simply inconsistent with the objectives of the statute to protect visibility programs in other states if a state never submits an approvable RH SIP. Second, this approach is flatly inconsistent with the timing requirements of section 110(a)(1) which specifies that SIP submissions to address section 110(a)(2)(D)(i), including the visibility prong of that section, must be made within three years after the promulgation of a new or revised NAAQS. We acknowledge that there have been delays with both RH SIP submissions by states and our actions on those RH SIP submissions, but that fact does not support a reading of the statute that overrides the timing requirements of the statute. At this point in time, states are required to have submitted regional haze plans to EPA that establish reasonable progress goals for Class I areas. This requirement applies whether or not states have in fact submitted such plans. We believe that there are means available now to evaluate whether a state's section 110(a)(2)(d)(i)(II) SIP submission meets the substantive requirement that it contain provisions to prohibit interference with the visibility programs of other states, and therefore that further delay, until all RH SIPs are submitted and fully approved, is unwarranted and inconsistent with the key objective to protect visibility.

As detailed in our proposal, we believe based on the information currently before us that an implementation plan that provides for emissions reductions consistent with the assumptions used in the modeling of other CENRAP states will ensure that emissions from Oklahoma sources do not interfere with the measures designed to protect visibility in other states. 76 FR 16168, at

16193. The Oklahoma SO_2 BART determinations for the six OG&E and AEP/PSO units did not require these sources to meet the level of control assumed in the CENRAP modeling. As we discuss elsewhere in our response to comments, Oklahoma engaged in a regional planning process. This regional planning process included a forum in which state representatives built emission inventories that assumed that specific pollution sources would be controlled to specific levels. This included assumptions that the six OG&E and AEP/PSO units would be controlled to presumptive BART emission levels for SO_2. Visibility modeling projections subsequently assumed those emission reductions, and other states relied on those reductions as part of their reasonable progress demonstrations. Accordingly and consistent with our proposal, we are partially disapproving the Oklahoma SIP revision submitted to address the requirements of CAA section 110(a)(2)(D)(i)(II). The FIP remedies the inadequacy in the Oklahoma SIP by requiring controls for the six units that at least achieve the level of control assumed in the CENRAP modeling.

Comment: AEP/PSO and another commenter have asserted that the promulgation of revised NAAQS for ozone and $PM_{2.5}$ in 1997 did not trigger any additional SIP obligations with respect to section 110(a)(2)(D)(i)(II). A commenter believes that these revised NAAQS are not meaningfully related to visibility requirements in Title I Part C, of the CAA. The commenters ask EPA to determine that no obligation to address Part C visibility components of a SIP arose from those NAAQS revisions.

Response: Reduced visibility is an effect of air pollution, and the emissions of $PM_{2.5}$ and ozone and its precursors can contribute to visibility impairment. SIP planning for the control of these pollutants on the promulgation of a new NAAQS will therefore implicate control measures and issues relating to visibility. CAA Section 110(a)(1) therefore requires implementation plans submitted in the wake of a newly promulgated NAAQS to address whether the state has adequate provisions to prevent interference with the efforts of other states to protect visibility. The obligation to address Part C visibility components expressly follows from the language of 110(a) concerning when plans must be submitted and what each implementation plan must contain.

Comment: OG&E contends that EPA's proposal to disapprove the state's BART determination is faulty, because the agency relied "without critical review" on what the commenter describes as the "opinion" of a contracted consultant. The commenter contends EPA's our consultant is unqualified to evaluate costs of installing and operating scrubbers at the OG&E Units, because our consultant "has no experience designing scrubbers or estimating their costs." Additionally, OG&E states our consultant lacked relevant knowledge about the OG&E Units and the facilities at which these units are located, and did not attempt to communicate with OG&E or its contractor about the particular design parameters, engineering specifications, or other intricacies associated with the OG&E units. The commenter believes the consultant's report contains opinions that "lack adequate foundation." On this basis, OG&E states that EPA cannot lawfully rely on the consultant's report.

Response: As an initial matter, we do not agree that our regulatory actions are subject to evidentiary rules regarding expert testimony, as this comment suggests. Our consultant's detailed report was incorporated as technical support for our regulatory determinations and is not properly characterized as an opinion. The contention that we accepted the consultant's report without critical review is false. As was stated in our proposal, only after we thoroughly reviewed and evaluated the report was it made a part of our TSD. 76 FR 16168, at 16182-16183. Furthermore, we met with OG&E and its consultant concerning the development of our proposal and had extensive communications clarifying particular technical points. This information was coordinated with our consultant and was incorporated into her report. Thus, we worked closely with our consultant in the development of her report.

Comment: A commenter states that EPA's proposed BART determination would violate Executive Order 13132, Federalism.

Response: We do not agree that our proposal or this final action violates Executive Order 13132. EPA is taking actions specified under the CAA in partially approving and partially disapproving the Oklahoma RH SIP. The CAA also specifies the responsibility of EPA to issue a FIP when states have not met their requirements under the CAA. EPA is promulgating this FIP to fill the regulatory gap created by the partial disapproval. Under the FIP, the state retains its authority to submit future RH SIPs consistent with CAA and RHR requirements; we do not discount the possibility of a future, approvable RH SIP submission that results in the modification or withdrawal of the FIP. This rulemaking does not change the distribution of power between the states and EPA. Consistent with this, in the Executive Orders section of this rulemaking, we have determined that Executive Order 13132 does not apply to this action.

Comment: A commenter states that EPA cannot propose a FIP until after it has taken final action to disapprove a state implementation plan. The commenter cites to part of CAA

Section 110(c)(1) which states that the Administrator shall promulgate a FIP "at any time within 2 years after" the Administrator "disapproves a State implementation plan submission." The commenter states that EPA should withdraw the proposed FIP, take final action only on the SIP, and only then propose a FIP, if one is necessary.

Response: We have the authority to promulgate a FIP concurrently with a disapproval action. This timing for FIP promulgation is authorized under CAA section 110(c)(1). As has been noted in past FIP promulgation actions, the language of CAA Section 110(c)(1), by its terms, establishes a two-year period within which we must promulgate the FIP, and provides no further constraints on timing. *See, e.g.*, 76 FR 25178, at 25202. Oklahoma failed to submit its regional haze SIP to us by December 2007, as required by Congress. Two years later, Oklahoma had still not submitted its regional haze SIP. When we made a finding in 2009 that Oklahoma had failed to submit its regional haze SIP, (*see* 74 FR 2392), that created an obligation for us to promulgate a FIP by January 2011. We are exercising our discretion to promulgate the FIP concurrently with our disapproval action because of the applicable statutory deadlines requiring us at this time to promulgate RH BART determinations to the extent Oklahoma's BART determinations are not approvable.

Comment: OG&E expresses the view that we have improperly combined a proposed disapproval of the Oklahoma SIP with our own BART determination. The commenter contends that the fact we would reach a different BART determination is not "itself sufficient grounds to disapprove the SIP." The commenter believes EPA desired to have scrubbers installed on the

OG&E units and is only proposing to substitute its own BART determination "to mask the fact that it lacks any meritorious grounds to disapprove ODEQ's BART determination."

Response: Our grounds for disapproving ODEQ's SO_2 BART determination were articulated in our proposal, and we have not claimed that having arrived at a different SO_2 BART determination constitutes a basis for disapproval. Instead, as was clear in our proposal, we were obliged to develop an SO_2 BART determination because Oklahoma's SO_2 BART determination was flawed and not approvable. The fact that Oklahoma's SO_2 BART determination was not approvable caused us to develop a BART determination that adheres to the requirements of section 51.308(e)(1)(ii)(A).

Comment: OG&E comments that we cannot justify our disapproval based on aggregate visibility improvements. The commenter asserts that when we review a SIP or propose a FIP, the agency is required to consider the visibility improvement associated with scrubbers on a facility-by-facility basis. The commenter points to a portion of our proposal where we stated that modeling demonstrates a "2.89 deciview improvement in visibility," 76 FR 16168, at 16186, and notes the statement is based on combining impacts from scrubbers at multiple units. The commenter asserts this approach violates the individual facility approach dictated by CAA as outlined in the *American Corn Growers* case and violates the RHR and the guidelines that responded to that case outcome. In particular, the commenter cites to the preamble language at 70 FR 39104, at 39106 which describes how the RHR was amended "to require the States to consider the degree of visibility improvement resulting from a source's installation and operation of retrofit technology, along with the other statutory factors." The commenter attributes significance to EPA's phrasing, which had stated in part, "…States will be required to consider all five factors, including visibility impacts, on an individual source basis when making each individual source BART determination."

Another commenter also contends we based our SO_2 BART proposal for the six OG&E and AEP/PSO units on a visibility estimate of an 8.20 dv cumulative improvement over multiple Class I areas. Further, this commenter contends we have claimed this visibility improvement will result from emission reductions at all three facilities combined, which the commenter characterizes as a form of aggregation that is impermissible, as BART must be determined on a source-by-source basis. The commenter also stated that analysis should be focused on the visibility impacts at the most impacted area, not all areas. The commenter claims our rules indicate that it is appropriate to model impacts at the nearest Class I area as well as impacts at other nearby Class I areas. However, in the case of the latter category of areas, merely for the purpose of "determin[ing] whether effects at those [other] areas may be greater than at the nearest Class I area." 70 FR 39104, at 39170. Further, continues the commenter, the rules state that "[i]f the highest modeled effects are observed at the nearest Class I area, you may choose not to analyze the other Class I areas any further…." *Id.* Based on this, the commenter states that that the BART rules contemplate a visibility improvement analysis that only is focused on visibility impacts in the most impacted area, not all areas.

Response: We proposed disapproval of the Oklahoma SO_2 BART determination for the six OG&E and AEP/PSO units in part because we disagreed with ODEQ's cost analysis, and our own visibility modeling indicated SO_2 controls would result in significant visibility improvement. In so doing, we adhered to the requirements of section 51.308(e). Oklahoma's SO_2 BART determinations for the six units were based on flawed costing methodologies. Our determinations regarding visibility improvement are not inconsistent with the CAA or the court's interpretation in *American Corn Growers* of the individual facility approach that must be utilized when making BART determinations. Although we noted in the proposal the combined visibility improvement at four Class I areas due to the installation of SO_2 controls at the six OG&E and AEP/PSO units, our FIP is not based on an analysis of visibility improvements that are aggregated across multiple facilities. Rather, we assessed the visibility improvement of each facility separately.

Our visibility modeling shows that the six OG&E and AEP/PSO units "causes or contributes" to visibility impairment—as the phrase is defined in the RHR[5]—at four Class I areas. As Table 1 indicates, the number of days per year each Class I area is impacted at this level by each facility's emissions are expected to decrease drastically at each Class I area as the result of installation of SO_2 BART emission controls at the six units. Clearly, the visibility benefits from SO_2 BART emission reductions will be spread among all affected Class I areas, not only the most affected area, and should be considered in evaluation of benefits from proposed reductions. The portion of the BART Guidelines (40 CFR 51 Appendix Y, IV.D.5) that the commenter referenced states: "If the highest modeled effects are observed at the nearest Class I area, you may choose not to analyze the other Class I areas any further as additional analyses might be unwarranted." This section of the BART Guidelines addresses how to determine visibility impacts as part of the BART determination and is intended to make clear that if certain

[5] States should consider a 1.0 deciview change or more from an individual source to ''cause'' visibility impairment, and a change of 0.5 deciviews to ''contribute'' to impairment. 70 FR 39120.

controls would be justified based on the impacts at the nearest Class I area, the state is not required to undertake an exhaustive analysis of impacts across multiple Class I areas. Several paragraphs later in the BART Guidelines is the following: "You have flexibility to assess visibility improvements due to BART controls by one or more methods. You may consider the frequency, magnitude, and duration components of impairment," emphasizing the flexibility in method and metrics that exists in assessing the net visibility improvement.

Comment: OG&E comments that we had improperly analyzed the "contingent BART determination that applies if EPA rejects ODEQ's determination that low sulfur coal is BART and all appeals are exhausted." The commenter says the contingent BART determination should not have been analyzed as a BART alternative under 40 CFR § 51.308, because it is "not a BART alternative." If the contingent determination were to be effectuated, the commenter asserts that scrubbers would then constitute BART itself, not an alternative to BART scrutinized under separate rules. The commenter also asserts that the contingent BART finding would be consistent with the statutory timeframe for installation of BART (viz., "in no event later than five years" under CAA section 169A(g)(4)), because the contingent BART finding would not be triggered until the appellate process had concluded and because a final appellate ruling might be made before 2013, which could result in a time for compliance that is shorter than five years.

Response: The RHR does not afford the option of submitting contingent BART determinations that would apply and become effective when EPA disapproves and successfully defends its disapproval of a state's BART determination. This item in the RH SIP could not be evaluated as a BART determination, because it is not on its face a BART finding. This component of the RH SIP submission inherently speculates on the actions and outcomes of review by EPA and the courts, and is contrary to the SIP planning and review expected under the RHR and the CAA, more generally. Accordingly, we properly evaluated these provisions as an alternative to BART and determined that the contingent BART determination was not approvable under 40 CFR § 51.308. We disagree that it could be reviewed under any other provision and found to be consistent with the RHR.

Comment: OG&E comments that we had improperly analyzed the “2026 compliance option” as failing to meet the standards of a BART alternative. In the commenter’s view, the 2026 compliance is not a BART alternative but only a measure “to implement a long-term strategy in the name of reasonable progress.” OG&E asserts that ODEQ has authority for this under 51.308(d)(3), and that implementation of the compliance option could reduce emissions more than would be possible with dry scrubbers, and that our evaluation of the 2026 compliance option loses sight of the long-term national goal.

Response: We disagree that the contingent SIP provision can be recognized as implementing a long-term strategy. As discussed in our response regarding the “contingent BART determination,” this component of the RH SIP is not on its face reviewable as a BART determination and fails to satisfy the requirements of Section 51.308. The contingent SIP is predicated on speculative actions and outcomes of review by EPA and courts, and does not comport with established SIP planning and approval processes under the CAA.

Comment: A commenter expressed concern that EPA has ignored the regional haze plan supported by ODEQ and local utilities, and states, “EPA has assumed the State’s role under the Clean Air Act and has simply chosen not to exercise its discretion to approve the Greater Reasonable Progress Alternative Determination.” Another commenter also submitted a comment requesting that EPA use the Oklahoma RH SIP as a guideline in the decision making process. Another commenter from the office of Oklahoma’s Attorney General states that we “should defer to the state plan,” because Oklahoma is in a superior position to make decisions regarding energy policy.

Response: We note that our action today largely approves the regional haze plan submitted by Oklahoma. We are, however, finalizing disapprovals of the state’s SO_2 BART determinations and the “Greater Reasonable Progress Alternative Determination” referenced by the commenter. We have determined that neither of these components of the RH SIP submission conforms to CAA and RHR requirements. Because Oklahoma’s SO_2 BART determinations are not being approved, we have promulgated a FIP that determines SO_2 BART for the six OG&E and AEP/PSO units in a manner consistent with RHR requirements. We agree that this action, as with any FIP, may be said to assume a planning role ordinarily belonging to the state. Even with the finalization of the FIP, the state nevertheless retains its authority to submit future RH SIPs consistent with CAA and RHR requirements; we do not discount the possibility of a future, approvable RH SIP submission that results in the modification or withdrawal of the FIP. In the meantime, sources must comply with the requirements of the FIP and the approved components of Oklahoma’s RH SIP.

2. Comments Asking EPA to Consider All Rules

Comment: OG&E comments that installation of scrubbers will consume a significant amount of additional power that would need to be generated by burning additional fuel. The commenter suggests that increased GHG emissions from the additional fuel combustion could trigger the requirement to obtain a prevention of significant deterioration (PSD) permit for greenhouse gas emissions (GHGs). The commenter asserts that a PSD permit application process "can take 18-24 months" and, if the process is necessary, it might be impossible to accommodate any PSD permit application process in a three-year compliance period. The commenter further contends the permitting process will impose costs and the terms of the PSD permit might impose costs if changes to the method of operation or additional control technologies are required. The commenter says we failed to account for these costs in our cost evaluation.

Response: We agree that the installation of SO_2 dry scrubbers at the six OG&E and AEP/PSO units could conceivably increase the emissions of other regulated new source review pollutants, including GHGs, to the point where PSD review is triggered. Any PSD permit that is necessary would have to be obtained from ODEQ, which is the permitting authority in Oklahoma. Whether or not PSD permitting is required would be based on design-specific considerations and applicability determinations that will vary with each unit. OG&E has not provided underlying data or facts to substantiate first, that PSD permitting could not be avoided through controls designed to consume less power, and second that a PSD permit, if needed, would impose additional or collateral costs that would materially change our cost evaluation.

We also disagree with the assertion that PSD permitting will require 18-24 months; Oklahoma's SIP for PSD permitting, consistent with CAA section 165(c), establishes a one year objective for granting or denying PSD permit applications. As we discuss elsewhere in this notice and in our Supplemental RTC, we find that compliance with SO_2 BART for the six units is extended to five years, which should provide ample opportunity to satisfy PSD permitting requirements, if any.

Comment: A commenter states that the proposed three-year compliance period is not justified. The commenter contends that we should consider other regulations that we are formulating for the power sector that will affect the six units covered by the FIP. The commenter mentions the Clean Air Transport Rule, the proposed Air Toxics rule, the projected NSPS, and rules for GHGs, coal combustion waste, and implementation of 316(b) of the Clean Water Act. The commenter states the compliance period is inadequate because utilities would not have sufficient time to develop a plan that addresses all of the regulations we are considering, including BART, because those rules may affect how they choose to comply with any given BART limitations. The commenter also thinks we should be required to analyze whether the compliance timeframe is appropriate by examining whether the other regulations will cause delays because of simultaneous demands for materials, equipment, supplies, and labor.

In related comments, OG&E and another commenter state that other regulatory developments that impact coal burning power plants in the period since Oklahoma submitted its SIP should be considered in our BART analysis, including the utility MACT proposal, the cooling water intake proposal, and the coal ash disposal proposal. OG&E further cites additional possible regulations through revision of the NAAQS, and the clean air transport proposal.

OG&E states the control requirements and costs of these other rules should be considered in establishing the remaining useful life of the OG&E units for the BART analysis. OG&E is concerned that depending on the outcome of these rulemaking processes, some or all of the units in question may not continue to be economically viable. The Governor of Oklahoma also submitted a comment requesting EPA to consider the impact that subsequent rulemakings may have on the issue of regional haze.

Response: We agree that multiple regulatory actions are pending that will affect the power sector and agree that regulatory development should be coordinated when possible. We also recognize the importance of long-term and coordinated planning on the part of owners of industrial sources that are subject to BART. The visibility requirements of the CAA were put in place in 1977 and 1990, and our implementing regulations adopted in 1999, and the regional haze requirement for installation and operation of BART, in particular, must be carried out expeditiously. We have no basis and no supporting evidence from the commenter or any other source to conclude that significant market constraints for materials, equipment, supplies and labor would arise to make a three-year compliance period unachievable, but we do recognize the importance of planning within any compliance period. As we discuss elsewhere in this notice and in the Supplemental RTC, we have extended the compliance timeframe from the three years we proposed. Compliance with the SO_2 BART emission limits in our FIP must be within five years of the effective date of our final rule, which is the maximum time permitted by statute.

With regard to the BART analysis, the BART guidelines do allow for consideration of the remaining useful life of facilities when considering the costs of potential BART controls.

Such a claim would have to be secured by an enforceable requirement. Neither OG&E nor AEP/PSO claimed any such restrictions on the operation of these six units. Consequently, we assumed a remaining useful life of 30 years in our BART analysis. If OG&E and/or AEP/PSO decide the units in question have a shorter useful life such that installing scrubbers is no longer cost effective, and are willing to accept an enforceable requirement to that effect, a revised BART analysis could be submitted by the plant(s) in question and our FIP could be re-analyzed accordingly. Similarly, we could also review a revised SIP submitted by ODEQ.

The RHR follows from statutory requirements of the CAA that are separate and independent from the regulatory requirements mandated by other components of the CAA and by other federal statutory schemes cited by the commenters. Even assuming the cited regulations were finalized and costs of these regulations were non-speculative, they have no bearing on the cost effectiveness analysis used to determine BART. Whether or not SO_2 BART is cost effective in conjunction with possibly unrelated environmental controls that may be separately required by other statutes such as the Clean Water Act is not part of the statutory formulation that Congress prescribed to address regional haze.

3. Comments on Interstate Transport

Comment: We received two comments emphasizing that regional haze is a problem that is not always contained by state boundaries. One of the commenters states that a “regional approach is critical” and notes that CAA Section 169B(c)(1) authorizes the establishment of visibility transport regions. The commenter states that visibility issues for the Wichita

Mountains Wilderness Area (WMWA) make it a "candidate for consideration of the establishment of a transport region." The commenter believes that a regional examination or study of all the issues will allow development of the long range strategies and lead to cost-effective management of all pollution sources that impair visibility in the region's Class I areas.

Response: We agree that pollutants from one or more states can significantly contribute to visibility impairment in the Class I areas of different states. CAA section 110(a)(2)(D)(i)(II) explicitly provides that states must have SIPs with adequate provisions to prevent interference with the efforts of other states to protect visibility. Our FIP action ensures that sources in Oklahoma meet the RH requirements for BART and the visibility requirements of section 110(a)(2)(D)(i)(II). We also agree that a regional approach to addressing visibility transport is important, which is why EPA funded Regional Planning Organizations (RPOs), such as the Central Regional Air Planning Organization (CENRAP), in which Oklahoma participated. States such as Oklahoma engaged in the RPO process for years in order to co-develop strategies for mitigating regional haze. At this time, we do not believe that delaying or setting aside these strategies in order to further study regional haze through the formation of a transport region is appropriate. However, we note the Administrator has statutory discretion to establish a transport region in the future and may do so on the Administrator's own motion or on consideration of a "petition from the Governors of at least two affected States." CAA Section 169B(c)(1).

D. Comments on Modeling

Comment: AEP/PSO stated that visibility improvements expected by installing controls under our FIP are nearly identical to the improvements from the actions included in the ODEQ

SIP submission, and that the FIP controls will not provide a noticeable improvement in visibility. The commenter concludes that the actions included in the ODEQ SIP submission are just as effective in reducing visibility impairment as the FIP. We received additional comments that installation of controls proposed in the FIP would result in imperceptible or nearly imperceptible improvements in visibility. Information is provided in the comments that claims to support the statement that there is "virtually no distinguishable" difference between the controlled and uncontrolled cases.

Response: We performed visibility modeling as part of the SO_2 BART determination analysis. A change of approximately one deciview (dv) is generally regarded as a perceptible change in visibility. 70 FR 39104, at 39118. "For purposes of determining which sources are subject to BART, states should consider a 1.0 deciview change or more from an individual source to 'cause' visibility impairment, and a change of 0.5 deciviews to 'contribute' to impairment."[6] 70 FR 39104, at 39120. Our modeling indicates that visibility improvements anticipated from the installation of dry scrubbers at each facility will result in reducing modeled impacts (maximum of 98th percentile daily maximum dv) from each facility at all nearby Class I areas to levels below 0.5 dv, with improvements greater than 1.0 dv at some Class I areas. We also evaluated the amount of improvement in the number of days that each facility would either cause or contribute to visibility impairment. As detailed in Table 1 below, the reductions resulting from our FIP would almost completely eliminate days when any of the three facilities'

[6] "If 'causing' visibility impairment means causing a humanly perceptible change in visibility in virtually all situations (i.e. a 1.0 deciview change), then 'contributing' to visibility impairment must mean having some lesser impact on the conditions affecting visibility that need not rise to the level of human perception." 70 FR 39104, at 39120.

BART units have a perceptible impact (greater than 1.0 dv). These reductions would also significantly decrease the number of days that have a 0.5 deciview impact (or greater).

Table 1. Average number of days per year each facility's visibility impacts exceed 1.0 and 0.5 deciviews

Class I Area	**Distance to Unit (km)**	**Average # of days/yr > 1.0 dv**			**Average # of days/yr > 0.5 dv**		
		Baseline	LNB	LNB & DFGD	Baseline	LNB	LNB & DFGD
Sooner Units 1 & 2							
Caney Creek	345	3	1	0	14	5	0
Hercules-Glades	363	2	0	0	9	3	0
Upper Buffalo	327	2	1	0	11	5	0
Wichita Mountains	234	18	10	1	38	25	3
TOTAL Average # of days/yr		25	12	1	72	38	3
Muskogee Units 4 & 5							
Caney Creek	180	17	7	0	46	28	3
Hercules-Glades	230	7	5	0	22	14	1
Upper Buffalo	164	15	8	0	34	25	2
Wichita Mountains	324	12	7	0	26	20	2
TOTAL Average # of days/yr		51	27	0	128	86	8
Northeastern Units 3 & 4							
Caney Creek	263	10	6	0	30	17	1
Hercules-Glades	244	6	4	0	17	11	0
Upper Buffalo	211	8	4	0	21	12	1
Wichita Mountains	323	11	7	0	24	16	2
TOTAL Average # of days/yr		35	21	0	93	55	4

In addition, in a situation where the installation of BART may not result in a perceptible improvement in visibility, the visibility benefit may still be significant, as explained by the preamble of the RHR: "Failing to consider less-than-perceptible contributions to visibility impairment would ignore the CAA's intent to have BART requirements apply to sources that contribute to, as well as cause, such impairment." 70 FR 39104, at 39129. Given that sources are subject to BART based on a contribution threshold of no greater than 0.5 deciviews, it would be inconsistent to automatically rule out additional controls where the improvement in visibility may be less than 1.0 deciview or even 0.5 deciviews. A perceptible visibility improvement is not a requirement of the BART determination because visibility improvements that are not perceptible may still be determined to be significant. We considered the reduction in visibility impairment at Wichita Mountains, Caney Creek, Upper Buffalo, and Hercules-Glades to be significant. Installation of dry scrubbers at each facility will result in significant visibility improvements, reducing the number of days with impaired visibility due to each of these sources at all impacted Class I areas (Table 1).

Comment: AEP/PSO stated that we should accept the visibility analysis results provided in ODEQ's SIP for determining BART for SO_2 because the results of both our and ODEQ's visibility modeling are not significantly different.

Response: We disagree that ODEQ's modeling was sufficient for evaluating the visibility impacts to inform our BART determination. Given that the emission rates that we proposed as SO_2 BART differed from those assumed in ODEQ's BART visibility modeling, it was necessary to perform our own CALPUFF visibility modeling. In doing so, we followed EPA/FLM guidance and practices to assess the anticipated visibility improvements from the use of dry and wet scrubbers with emission rates of 0.06 and 0.04 lb of SO_2/MMBtu, respectively. ODEQ, in contrast, used emission rates of 0.10 and 0.08 lb of SO_2/MMBtu for dry and wet scrubbers, respectively, in its modeling. As a result, ODEQ underestimated the visibility improvements associated with the use of dry and wet scrubbers. Furthermore, ODEQ's BART visibility analyses relied on pollutant-specific modeling to evaluate the visibility benefits from the use of available SO_2 emission controls. As discussed in the TSD that accompanied the proposed action and elsewhere in our response to comments, due to the complexity of atmospheric chemistry and chemical transformation among pollutants, we modeled all visibility impairing pollutants together to fully assess the visibility improvement anticipated from the use of controls. As detailed in the TSD, we also had updated emission estimates for sulfuric acid emissions based on the latest information, and corrected PM speciation that was included in our modeling. We therefore disagree with the commenter and have explained why we needed to do our own BART CALPUFF visibility analysis. We modeled the emission rates determined to be achievable by the available and technologically feasible controls in accordance with the appropriate procedures, utilizing current practices and model versions that were acceptable to us at the time they were conducted in the latter half of 2010, and we are confident in using our results as one of the five factors in making a BART determination.

Comment: A commenter stated that in our visibility analysis, we updated the PM speciation analysis for both Sooner and Muskogee to use National Park Service (NPS) speciation profiles for dry bottom boilers rather than wet bottom boilers calculated in ODEQ's SIP submission and used updated coal properties. The commenter concludes that the difference between ODEQ's PM speciation and EPA's should not impact the BART analysis because primary PM species emitted directly from the stack generally have little overall impact on visibility impairment, and PM specific controls are not being considered for BART. In addition, the commenter states that we used different estimates for sulfuric acid emissions used to represent emissions of sulfate particles. The commenter states that this sulfate emission rate is not likely to be a significant factor in the overall visibility impairment and therefore the differences between ODEQ's modeling and EPA's modeling is not significant. Because the results are not significantly different between EPA's and ODEQ's visibility modeling, the commenter asserts that we have no basis for not accepting the visibility modeling provided in the SIP.

Response: As discussed in the TSD, it was necessary for us to perform CALPUFF visibility modeling to assess the anticipated visibility improvements from the use of dry and wet scrubbers at the achievable SO_2 emission rates of 0.06 and 0.04 lbs/MMBtu, respectively. Because revised modeling was necessary to support our proposed BART determination, we performed modeling following EPA/FLM guidance and practices, and corrected errors noted during our review of ODEQ's modeling. Our modeling included revised PM speciation to correct errors in PM speciation that was included in ODEQ's modeling. As detailed in the TSD, ODEQ used incorrect coal properties and emission factors in calculating the PM speciation used in their modeling. In addition, we estimated sulfuric acid emissions using the best current information available from the Electric Power Research Institute (EPRI)[7] and the correct coal properties. ODEQ estimates of sulfuric acid emissions for Sooner and Muskogee failed to account for removal in the existing air heater or ESP. ODEQ's estimates of sulfuric acid emissions from the Northeastern units were based on an assumption of 3ppm sulfur content conversion in the flue gas. Furthermore, sulfuric acid emission estimates used in ODEQ's PM pollutant-specific modeling were based on the erroneous PM speciation discussed above.

[7] "Estimating Total Sulfuric Acid Emissions from Stationary Power Plants: Version 2010a. EPRI, Palo Alto, CA: 2010. 1020636."

We agree with the commenter that primary PM and sulfuric acid emissions from the sources modeled may not significantly impact visibility. However, in performing our own modeling analysis to support our BART determination, we saw no reason to not make corrections and estimate emissions based on accepted methodology using the best current information, correct emission factors and coal properties. Because emissions of PM and sulfuric acid vary between wet and dry scrubbers and do have some impact on visibility conditions, we utilized the best estimates for the emissions of these species to fully account for the difference in visibility impacts between the base case and the two control cases modeled.

Comment: AEP/PSO asserted that we incorrectly rejected the ODEQ visibility improvement evaluation because ODEQ applied various controls using pollutant-specific baseline and control model runs, as opposed to using all visibility impairing pollutants in the calculation of the baseline and control model runs. The commenter states that our BART guidelines are not specific as to how to evaluate visibility improvement for the application of BART controls. The commenter asserts that the pollutant specific CALPUFF modeling approach is a reasonable but simplistic method to look at the improvement in visibility impairment attributable to NO_X, SO_2, or PM and is consistent with our guidance contained in a BART Q&A document that states that the control technology visibility analysis can be conducted for single units and individual pollutants.

Response: The referenced BART Q&A document[8] states that it may be appropriate to conduct a unit by unit, pollutant by pollutant analysis, depending on the types of units and control measures under consideration. As discussed in the TSD, due to the nonlinear nature and complexity of atmospheric chemistry and chemical transformation among pollutants, all relevant pollutants should be modeled together to predict the total visibility impact at each Class I area receptor.[9] The referenced Q & A document provides clarification and guidance on performing visibility analyses for BART. The emissions of NO_X and SO_2, should be modeled together to determine the visibility impacts, and in evaluation of controls and combinations of controls in determining BART for a source. As seen in our modeling results for wet and dry scrubbers included in our proposal and TSD, the chemical interaction between pollutants and background species can lead to situations where the reduction of emissions of a pollutant can actually lead to an increase in visibility impairment. Therefore, to fully assess the visibility benefit anticipated from the use of controls, all pollutants should be modeled together. As discussed elsewhere in this response to comments, it was necessary for us to perform CALPUFF visibility modeling to assess the anticipated visibility improvements from the use of dry and wet scrubbers at the achievable SO_2 emission rates of 0.06 and 0.04 lb/MMBtu, respectively. Because revised modeling was necessary to support our proposed BART determination, we performed modeling following EPA/FLM guidance and practices, including modeling all visibility impairing pollutants together to fully assess the total visibility benefit anticipated from emission reductions.

[8] "Q & A's for Source by Source BART rule," dated July 6, 2005. This document is not available on EPA's website and is a draft document reflecting the preliminary views of EPA staff on a number of questions submitted by stakeholders.

[9] "Regional Haze Regulations and Guidelines for Best Available Retrofit Technology (BART) Determinations," from Joseph Paisie, Geographic Strategies Group, OAQPS, to Kay Prince, Branch Chief, EPA Region 4, dated July 19, 2006.

Comment: AEP/PSO stated that when we calculated visibility improvement during our BART analysis, we used the monthly average humidity adjustment factors provided in Table A-2 of our 2003 Guidance document for the assessment of natural background visibility, whereas, ODEQ used Table A-3 in its visibility calculations. The commenter states that there is no guidance that requires the use of humidity factors from Table A-2 as opposed to Table A-3. In addition, the commenter states that the use of humidity factors from Table A-2 instead of A-3 should not make a significant difference in the overall visibility impairment and does not provide a basis for our rejection of the visibility modeling provided in the SIP submittal.

Response: EPA guidance for estimating natural visibility conditions under the RHR provides monthly site-specific relative humidity factors for use in calculating visibility impairment.[10] Table A-2 of the guidance contains the "recommended" values based on the representative IMPROVE site location. Table A-3 provides data based on the centroid of the area as "supplemental information." Relative humidity factors are used with the original IMPROVE equation to calculate extinction from measured or predicted pollutant concentrations. The factors used by ODEQ are not the recommended values and are given in the guidance document only as supplemental information. Furthermore, EPA guidance for tracking progress under the RHR contains that same information also labeled Table A-2 and A-3 and is consistent with the above guidance material.[11] This guidance states that the site specific values provided in Table A-2 for each mandatory federal Class I area are recommended to be used for all visibility and tracking progress calculations for that Class I area. Table A-3 is supplemental data provided

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[10] *See*, "Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule," EPA-454/B-03-005, September 2003.

[11] "Guidance for Tracking Progress Under the Regional Haze Rule," EPA-454/B-03-004, September 2003.

for informational purposes. We used the recommended values from Table A-2 of these guidance documents to calculate visibility using the original IMPROVE equation.

As discussed elsewhere in this response to comments, we find that our CALPUFF visibility modeling was necessary to assess the anticipated visibility improvements from the use of dry and wet scrubbers at the achievable emission rates that were determined during our analysis of the available control technology. We performed our CALPUFF visibility modeling following EPA/FLM guidance and practices. As detailed in the following response to comment, we used the revised IMPROVE equation to estimate visibility impacts. The revised IMPROVE equation utilizes a separate set of relative humidity adjustment factors available from the Federal Land Managers' Air Quality Related Values Work Group (FLAG) Phase I Report.[12] We also evaluated modeling results using the original IMPROVE equation to quantify the sensitivity of our results to the choice in visibility impairment algorithm. In applying the original IMPROVE equation for this sensitivity analysis, we utilized the recommended relative humidity factors provided in the guidance.

Comment: AEP/PSO stated that ODEQ used the most up-to-date version of the visibility model available and utilized the original IMPROVE equation that was approved for use at the time the SIP was prepared. The commenter stated that when we performed our modeling we used the revised IMPROVE equation. The commenter states that the use of this different equation is the largest variable causing the ODEQ modeling results to be different from our modeling results. The commenter concludes that because ODEQ used the most up-to-date

[12] "Federal Land Managers' Air Quality Related Values Work Group (FLAG) Phase I Report—Revised (2010) Natural Resource Report NPS/NRPC/NRR—2010/232," National Park Service, U.S. Department of the Interior, *available at* http://www.nature.nps.gov/air/Pubs/pdf/flag/FLAG_2010.pdf.

version of the equation at the time the SIP was prepared, the subsequent release of new methods should not be the basis for overriding the results provided in the SIP.

Response: The original IMPROVE equation and the revised IMPROVE equation refer to two different versions of algorithms used to estimate visibility impairment from pollutant concentrations. The revised equation is a more recently available, refined version of the original equation and is now considered by EPA and FLM representatives to be the better approach to estimating visibility impairment. Compared to the original IMPROVE equation, this revised IMPROVE equation has less bias, accounts for more pollutants, incorporates more recent data, and is based on considerations of relevance for the calculations needed for assessing progress under the RHR.[13]

As discussed elsewhere in this response to comments, it was necessary for us to perform CALPUFF visibility modeling to assess the anticipated visibility improvements from the use of dry and wet scrubbers at the achievable SO_2emission rates of 0.06 and 0.04 lb/MMBtu, respectively for Step 5 of the BART analysis. As part of our BART analysis, we performed CALPUFF modeling to assess the impacts of the SO_2 BART proposed controls on the sources at issue on visibility impairment. Because the revised IMPROVE equation is the preferred method for analyses being conducted at this time,[14] we estimated the CALPUFF visibility impacts using

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[13] Revised IMPROVE algorithm for Estimating Light Extinction from Particle Speciation Data, IMPROVE, January 2006 (http://vista.cira.colostate.edu/improve/Publications/GrayLit/gray_literature.htm) ; Hand, J.L., Douglas, S.G., 2006, Review of the IMPROVE Equation for Estimating Ambient Light Extinction Coefficients – Final Report (http://vista.cira.colostate.edu/improve/Publications/GrayLit/016_IMPROVEEeqReview/IMPROVEeqReview.htm)
[14] U.S. EPA. Additional Regional Haze Questions. U.S. Environmental Protections Agency. August 3, 2006, *available at* http://www.wrapair.org/forums/iwg/documents/Q_and_A_for_Regional_Haze_8-03-06.pdf#search=%22%22New%20IMPROVE%20equation%22%22; WRAP presentation, "Update on IMPROVE Light Extinction Equation and Natural Conditions Estimates" Tom Moore, May 23, 2006; U.S. Forest Service, National Park Service, and U.S. Fish and Wildlife Service. 2010. Federal land managers' air quality related values

this peer reviewed algorithm. We also evaluated modeling results using the original IMPROVE equation to quantify the sensitivity of our results to the choice in visibility impairment algorithm. Visibility benefits estimated using the original IMPROVE equation were larger than those estimated with the revised IMPROVE equation at all four Class I areas included in the modeling. We note that, using either equation, visibility benefits were projected for the installation of scrubbers and support the conclusion that dry scrubbers are the appropriate BART control for each facility.

Comment: AEP/PSO states that we incorrectly compared baseline visibility impairment with visibility improvement for controlled cases. The commenter states that both the Oklahoma SIP and the proposed FIP compared an inherently higher 24-hour average for the baseline with an inherently lower 30-day average for the controlled case. The commenter states that the same averaging period should be used so decisions are not biased toward greater SO_2 emission reductions. The commenter also states that our analysis is consistent with many other BART analyses and determinations prepared by EPA, states and industry, but inconsistent with the proposed BART determination for the Four Corners Power Plant in New Mexico and BART guidance from the State of Colorado.

Response: The approach that we have taken for estimating the visibility impacts of wet and dry scrubbing is appropriate based on the approach set out in the BART Guidelines. The BART guidelines state that in estimating visibility impacts:

work group (FLAG): phase I report—revised (2010). Natural Resource Report NPS/NRPC/NRR—2010/232. National Park Service, Denver, Colorado.

> Use the 24-hour average actual emission rate from the highest emitting day of the meteorological period modeled (for the pre-control scenario). Calculate the model results for each receptor as the change in deciviews compared against natural visibility conditions. Post-control emission rates are calculated as a percentage of pre-control emission rates. For example, if the 24-hr pre-control emission rate is 100 lb/hr of SO_2, then the post control rate is 5 lb/hr if the control efficiency being evaluated is 95 percent.

The BART guidelines also state:

> The emissions estimates used in the models are intended to reflect steady-state operating conditions during periods of high capacity utilization. We do not generally recommend that emissions reflecting periods of start-up, shutdown, and malfunction be used, as such emission rates could produce higher than normal effects than would be typical of most facilities.

The BART guidelines provide a consistent approach to assess the visibility improvement due to the installation of controls allowing comparison between BART assessments. Setting the baseline using the highest emitting day during the period being assessed provides a consistent approach for sources to assess their baseline impacts and gives an assessment of the maximum impact the source will have on visibility. ODEQ, EPA and AEP agreed on how to model the baseline emissions, including the baseline emission rates, in a previous modeling protocol and subsequent modeling reports. ODEQ's RH SIP, and EPA's proposed FIP incorporated this same baseline emission rate approach that is consistent with previous agreements and analyses that AEP had conducted.

In modeling the post-control emission rates, we considered the reasonably anticipated control efficiency of the available control technology taking into account that the BART modeling should reflect steady-state operating conditions and should not generally reflect periods of start-up, shutdown and malfunction. As discussed previously in our TSD and elsewhere in this notice and the Supplemental RTC, control efficiencies reasonably achievable by dry scrubbing and wet scrubbing were determined to be 95% and 98% respectively. We also note that OG&E directed its vendors to provide bids on a dry SO_2 scrubber system that was designed to remove 95% of the SO_2. The two AEP sources were modeled with baseline SO_2 emission rates of 5230.8 and 5034.6 lb/hr for Units #3 and #4 respectively. These rates for the two AEP sources were modeled using the firing rate of each unit with baseline SO_2 emission rates of 0.9 lb/MMBtu which, as discussed above, are the same rates, previously provided by AEP and utilized by ODEQ in the Oklahoma RH SIP for the baseline emission rates. Applying the expected 95% reduction in emission rates for a dry scrubber, in accordance with the example given in the BART guidelines, would result in an emission rate of 0.045 lb/MMBtu. This value is lower than our proposed BART SO_2 emission limit of 0.06 lb/MMBtu. The 0.06 lb/MMBtu emission limit we chose was based on a thorough review of achievable emission rates of current Dry Flue Gas Desulfurization (DFGD) scrubbers and the example method for the BART guidelines that yields 0.045 lb/MMBtu is not appropriate in this case for estimating future emission rate for modeling. We chose to model the future SO_2 emission rate of 0.06 lb/MMBtu rather than 0.045 lb/MMBtu because this is consistent with our proposed BART emission limit and is a reasonable estimate of future emissions in order to estimate the future visibility improvement from baseline levels. Our approach of modeling the proposed emission limit is consistent with the approach taken by ODEQ in their SIP and in our action on the BART FIP for the State of New Mexico and is not as conservative as using the emission rate based on percentage reduction as outlined in the BART guideline.

As discussed elsewhere, the BART determination is based on consideration of five factors, including the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. The visibility modeling is intended to give a reasonable best estimate of the visibility impacts from an evaluation of emission reductions. The visibility analysis is only one of the factors in a BART determination. In this final action, we are setting a SO_2 limit of 0.06 lb/MMBtu to be calculated on a 30-day rolling average Boiler Operating Day. We modeled the 0.06 lb/MMBtu in our proposal, which equates to a 93 percent reduction in emissions, because we have determined this emission rate to be achievable. This percentage reduction is less than would be expected from the installation of a DFGD that has been optimally designed (refer to Figure 7 and 8 of the Supplemental RTC and the associated responses to comments).

We recognize that sources complying with a 30 day average may at times operate above the 30 day average emission limit but they will have to balance those times by operating below the limit at other times. This variability is difficult to assess, though a prudent source will strive to remain below the 30 day emission limit as much as possible. In some instances, it may be appropriate to model a slightly higher emission rate when limiting the emissions using a 30-day average to account for potential variability, when the amount of variability is well understood. In this case, we believe using the 30 day average emission limit is a reasonable approach to project future emissions that would reasonably be anticipated in accordance with BART guidelines because we have no reason to think the variability in the future case will be large enough to impact our evaluation of the five factors.

We did not believe it was appropriate to assess variability based on past history of emissions at the facilities because there is inherently more variability in historic data when facilities are not specifically controlling to achieve low SO_2 emissions and the facility emissions instead can vary due to the range of types of coal purchased. As the limits are reduced to a level in the range that was proposed in our action, the amount of variability that would exist is expected to decrease, as the source must demonstrate compliance on a 30-day BOD compliance level with a much tighter limit than it had previously. We have seen this in evaluation of some sources in comparing their pre-control emission variability with their post-control emission variability.

As discussed in a later response to comment, we note the TS Power Plant near Dunphy, Nevada, which has a similar permitted SO_2 emission limit to our BART FIP, maintained a 30 day BOD emission rate below 0.06 lb/MMBtu for an approximately 20 month period of time in 2010-2011. This plant burns a similar Powder River Basin (PRB) coal as the six AEP/PSO and OG&E units. In addition, the Wygen II facility, located outside Gillette, Wyoming, and the Weston 4 facility, near Wausua, Wisconsin, also burn coal similar to the OG&E and AEP/PSO's units and have been able to maintain 30 day BOD SO_2 emission rates below 0.06 lb/MMBtu for significant periods of time during the years of 2009-2011. CEM data for the TS Plant (Figure 7 of the Supplemental RTC) shows limited variability in 24-hr emissions. We note that this data includes periods of start-up, shutdown, and malfunction that would normally be considered when evaluating the emission rate to be modeled to represent steady-state operating conditions for BART modeling. In evaluation of other facilities we did find where they had operated for months at a significantly lower emission rate than 0.06 lb/MMBtu, with limited variability under steady-state conditions.

The commenter pointed to other actions and guidance concerning emission rate estimates and indicated that we were not consistent with those approaches. The commenter pointed to the EPA Region 9 proposal for the Four Corners power plant, which used the percent reduction approach and the 24-hour maximum actual baseline emission rate to estimate a future controlled emission rate. We note that we evaluated this technique (see discussion earlier in this response) that is outlined in the BART guideline as one acceptable technique and it resulted in a value (0.045 lb/MMBtu) that was not reasonable compared to the 30-day emission limit (0.06 lb/MMBtu) that we proposed and determined to be technically feasible. The commenter also pointed to guidance that Colorado has developed for their BART sources that indicates a maximum 24-hour future controlled emission rate should be used in conjunction with using the maximum actual 24-hour baseline emission rate.

The BART guidelines state:

> Make the net visibility improvement determination.
>
> Assess the visibility improvement based on the modeled change in visibility impacts for the pre-control and post-control emission scenarios. You have flexibility to assess visibility improvements due to BART controls by one or more methods. You may consider the frequency, magnitude, and duration components of impairment.

The BART guidelines allow for some flexibility in how to assess visibility improvements due to BART controls. As we discuss elsewhere in this response, we consider issues related to frequency, magnitude and duration of emission levels that may occur in comparison to our proposed 0.06 lb/MMBtu 30-day limit and the potential for impacting the visibility projections. We concluded that the amount of times the variability of emissions would exceed 0.06 lb/MMBTU on a maximum daily process would not be expected to be of sufficient magnitude to have a large impact on our visibility improvement estimates. We agree that the BART guidelines allow for some flexibility in how visibility improvement determinations are conducted. We considered processes similar to Colorado's approach, including the methodology given as an example in the BART guidelines, but determined we did not have sufficient information to accurately estimate the future maximum 24-hour emission rate and furthermore concluded that existing modeling indicated that small changes would not significantly impact our visibility improvement estimates. Overall, the BART guidelines give some flexibility to how the visibility improvements can be calculated and the approach that we have used is reasonable based on the information available and is not inconsistent with the BART guidelines.

We conducted modeling for future emission rates of 0.04 and 0.06 lb/MMBtu of SO_2 in our proposal. We note that at these low SO_2 emission rates, the most impacted days were more nitrate driven days because the SO_2 rates were low. Therefore, a slight increase in emission rates on the order of 10% or so for a maximum 24-hour emission rate would not be expected to result in much change in visibility estimates. We do note that other modeling conducted by the source's consultants and the state indicates that a significant increase in the controlled SO_2 emission rate would decrease the visibility impairment improvements from installation of controls and result in much lower relative visibility improvement. As further discussed elsewhere in this response we find our future emission rate to be a reasonable assessment of the visibility improvement due to the setting of a 0.06 lb/MMBtu on a 30-day BOD limit.

In summary, we find our approach to modeling the baseline and control case emissions was a reasonable estimate of reduction in impairment and not inconsistent with the BART guideline. We recognize that it is possible that the facility will operate at slightly higher emission rates at times, but it is also true that to remain in compliance over a 30 day rolling average, it will also have to operate at lower emission rates than 0.06 lbs/MMBtu. Furthermore, we have shown that other facilities have demonstrated that it is feasible to operate below 0.06 lbs/MMBtu for extended periods of time. Finally, we have noted that even if emissions are slightly higher than 0.06 lbs/MMBtu, at times, it would not be expected to increase the visibility impairment significantly because at these low concentrations, visibility impairment due to AEP/PSO sources is primarily due to nitrates. We find the approach for estimating improvements in visibility due to our proposed emission level that we have used is appropriate based on the information available and is not inconsistent with the BART guidelines. For these reasons, we believe the proposal was based on a reasonable assessment of visibility improvements for consideration as one of the five factors of the BART decision.

Comment: A commenter submitted a review of our modeling results for controlling SO_2 emissions, noting a 2.89 deciview improvement in visibility at the Wichita Mountains and a cumulative improvement in visibility total of 8.20 deciviews. The commenter believes our CALPUFF modeling is appropriate and concurs with our emission calculations and speciation. They do, however, note several "possibly incorrect input values" regarding base elevations of several units and the stack gas exit velocity of one unit. The commenter expressed the view that corrected values would not substantially change results and conclusions. The commenter also contends that EPA's proposed SO_2 BART may benefit Oklahoma and the facilities, because the commenter believes that based on results of their dispersion modeling, the units are currently contributing to violations of the one-hour SO_2 NAAQS.

Response: We agree with the commenter that our modeling calculations and speciations are appropriate. We further agree with the commenter's noted visibility improvement resulting from the SO_2 controls that we are requiring in the FIP. It is true that states will be required to submit plans demonstrating attainment or maintenance of the new one-hour SO_2 NAAQS. However, this is not a consideration for our action, which is directed solely to ensuring the state has met the BART requirements of the RHR and the requirements of CAA section 110(a)(2)(D)(i)(II). With respect to the noted "possibly incorrect input values," we agree that correcting these values would not substantially change our results and conclusions.

E. Summary of Responses to Comments on the SO_2 *BART Cost Calculation*

We received many comments on issues concerning our cost calculations for our proposed SO_2 BART determinations on the six OG&E and AEP/PSO units. The full text received from these commenters is included in the docket associated with this action. Additionally, our summary and response for these comments is provided in the "Response to Technical Comments for Sections E through H of the Federal Register Notice for the Oklahoma Regional Haze and Visibility Transport FIP," (or Supplemental RTC), and it is available in the docket. Although we summarize them here, please see the Supplemental RTC for a full accounting of the issues and how they influenced our final decision. We deviate in sections E., F., G., and H., from the comment-response format of the rest of the notice, as many of the comments summarized herein were drawn from multiple, lengthy, and highly technical comments.

The significant aspects of our approach to cost estimations in consideration of all comments are summarized in this section. Overall, our final rulemaking retains the basis for the cost effectiveness evaluation and cost estimates we employed in our proposal. However, as discussed in more detail below, we are changing several factors in the cost calculations for the four OG&E units as a result of the comments we received. We are making no changes to the cost calculations for the two AEP/PSO units.

1. Control Cost Manual Methodology

The Control Cost Manual must be followed to the extent possible when calculating the cost of BART controls.[15] This is necessary to ensure that a consistent methodology is used when comparing cost effectiveness determinations. The Control Cost Manual allows site-specific conditions to be incorporated in certain circumstances. Site-specific conditions can include vendor quotes, space constraints, a design feature that could complicate installing a control, or unusual circumstances that introduce a cost not contemplated by the Control Cost Manual. OG&E incorporated many of these into its cost evaluation. However, the RHR specifically requires that the analyst document any such site-specific conditions.[16] Thus, the RHR places the burden on the analyst to make this demonstration, and on EPA to approve it, disapprove it, or document it when promulgating a FIP. Nevertheless, with the exceptions noted herein and in our Supplemental RTC, we approved many of those site-specific cost modifications.

The Control Cost Manual uses the overnight method of cost estimation, widely used in the utility industry.[17] The U. S. Energy Information Administration (EIA) defines "overnight cost" as "an estimate of the cost at which a plant could be constructed assuming that the entire process from planning through completion could be accomplished in a single day. This concept is useful to avoid any impact of financing issues and assumptions on estimated costs."[18] EIA presents all of its projected plant costs in terms of overnight costs. The overnight cost is the

[15] Very limited situations exist under which an analyst can depart from the Control Cost Manual methodology under the RH rule. "The basis for equipment cost estimates also should be documented, either with data supplied by an equipment vendor (i.e., budget estimates or bids) or by a referenced source (such as the OAQPS Control Cost Manual, Fifth Edition, February 1996, EPA 453/B–96–001). In order to maintain and improve consistency, cost estimates should be based on the OAQPS Control Cost Manual, where possible. The Control Cost Manual addresses most control technologies in sufficient detail for a BART analysis." 70 FR 39104, at 39166.

[16] A cost determination can deviate from the Control Cost Manual methodology if you "include documentation for any additional information you used for the cost calculations, including any information supplied by vendors that affects your assumptions regarding purchased equipment costs, equipment life, replacement of major components, and any other element of the calculation that differs from the Control Cost Manual." *Id*.

[17] See Control Cost Manual, Section 2.3 to 2.4.

[18] EIA, "Updated Capital Cost Estimates for Electricity Generation Plants," November 2010, footnote. 2, *available at*: http://www.eia.gov/oiaf/beck_plantcosts/?src=email

present value cost that would have to be paid as a lump sum up front to completely pay for a construction project.[19] The overnight method is appropriate for BART determinations because it allows different pollution control equipment to be compared in a meaningful manner. Because "different controls have different expected useful lives and will result in different cash flows, the first step in comparing alternatives is to normalize their returns using the principle of the time value of money. . . . The process through which future cash flows are translated into current dollars is called present value analysis. When the cash flows involve income and expenses, it is also commonly referred to as net present value analysis. In either case, the calculation is the same: adjust the value of future money to values based on the same point in time (generally year zero of the project), employing an appropriate interest (discount) rate and then add them together."[20] This is the overnight method, in which costs are calculated based on current dollars. Therefore, consistent with our proposal, we find that the overnight method is appropriate for calculating costs for all six units.

OG&E and others incorrectly assume that BART cost effectiveness should be based on the "all-in" cost method, which includes all of the costs of a financial transaction, including interest, commissions, and any other fees from a financial transaction up to the date that the project goes into operation, as of the assumed commercial operating dates of the scrubbers, 2014 and 2015. This is an entirely different method than that prescribed in the Control Cost Manual. OG&E and others conclude that dry scrubbers are not cost effective for the six units, based on all-in costs reported in 2014 to 2015 dollars, compared to costs estimated at other similar facilities based on overnight costs and 2009 and earlier dollars. This comparison is an invalid

[19] Steven Stoft, Power Economics: Designing Markets for Electricity, 2002.
[20] *Id.*, page 2-18.

because OG&E's 2014 and 2015 all-in costs are much higher than the corresponding overnight costs, as prescribed by the Control Cost Manual. This makes the estimated cost of scrubbers at the six units appear to be higher than scrubbers required at other similar facilities costed using the overnight method. Many of the corrections we make to ODEQ's cost estimates for the six OG&E and AEP/PSO units are due to the fact that ODEQ did not follow this provision of the Control Cost Manual in its SIP submittal. Please refer to our Supplemental RTC in the docket for more information about how the overnight costing methodology is employed by the Control Cost Manual.

2. Revised Cost Calculations for the OG&E Units

OG&E's cost estimates deviate from the Control Cost Manual, which is based on the overnight cost approach. In its cost estimates, OG&E has improperly included allowances for excessive contingencies allowances for funds during construction (AFUDC), double counted certain expenses, and improperly relied on the Electric Power Research Institute (EPRI) cost model, CUECost. These deviations from the Control Cost Manual, occurring because of the reliance upon the all-in cost methodology, artificially increase the cost of scrubbing at Sooner and Muskogee, compared to the cost at other similar facilities using the overnight cost methodology.

OG&E's cost estimates relied on vendor quotes and site specific estimates for certain additional costs. We support the use of vendor quotes and site specific estimates but only as used within the parameters of the overnight cost methodology. The Guidelines, cited in this comment, are clear that "[y]ou should include documentation for any additional information you used for the cost calculations, including any information supplied by vendors that affects your assumptions regarding purchased equipment costs, equipment life, replacement of major components, and any other element of the calculation that differs from the Control Cost Manual."[21] However, much of the documentation OG&E and others cite to support deviations from the Control Cost Manual was not provided to us. Thus, we were unable to analyze their contents and determine whether these deviations were appropriate. Also, although OG&E provided two spreadsheets that listed its cost line items, these spreadsheets, each over 600 lines in length, were stripped of all formulas for cell calculations, preventing any meaningful review, despite our request for that material.

Capital Recovery Factor

We are changing one input to the cost calculations for the four OG&E units based on a comment we received from OG&E concerning the Capital Recovery Factor (CRF). OG&E states that, while the Control Cost Manual includes a default rate of 7% for the social discount interest rate, we should use a site-specific social discount interest rate for the four OG&E units. This rate includes several site-specific variables, including income tax. The commenter states that the CRF includes not only recovery of principal but also a return on the principal, with the rate of return equal to the discount rate. OG&E states that for an investor owned utility, such as itself, which is financed by a mix of debt and equity, the discount rate is equal to the weighted average of the equity return and debt return.

[21] 70 FR 39104, at 39166, footnote 15.

We agree that a site-specific social discount interest rate is appropriate based on the documentation provided by the commenter. However, we disagree that such a rate can include income tax. The Control Cost Manual states "this Manual methodology does not consider income taxes." Control Cost Manual, page 2-9. The site-specific social discount interest rate, excluding income tax, is 6.01%, which is less than the default rate of 7%. Thus, we have revised our cost effectiveness analysis in Exhibits 1 and 2 for Options 1 and 2, to use the levelized interest rate of 6.01%, as reported by OG&E, adjusted to remove income taxes. This rate is consistent with OG&E's real average cost of capital and falls within the range of 3% to 7% recommended by OMB for regulatory cost analyses. This correction moderately improved the cost effectiveness, thus lowering the calculation of \$/ton SO_2 removed. For detailed information on our calculation, please see the Supplemental RTC.

Construction Management

In our proposal, we revised the cost estimate to remove what we took to be double counting of the Balance of Plant (BOP) construction management costs. OG&E explained in a comment that crew wage rates do not include contractor general and administrative (G&A) costs and that construction management is the cost of third-party construction management, different from the BOP profits contractor and different from the owner. Based on this explanation, we have restored the construction management costs in our revised Options 1 and 2 cost estimates in Exhibits 1 and 2. This correction slightly diminished the cost effectiveness, thus raising the calculation of \$/ton SO_2 removed.

Scrubber Design and Emission Baseline Mismatch

We retain both our Option 1 and Option 2 cost effectiveness approaches to the mismatch between the design of OG&E's SO_2 scrubbers and the coal they currently burn. OG&E specified to its vendors that they provide cost estimates for SO_2 scrubber systems designed to treat the exhaust gases from a coal that contains much higher amounts of sulfur than coals that were typically burned in the baseline period (2004-2006). However, in calculating the cost effectiveness, OG&E used its historical baseline emissions, which resulted from the burning of those lower sulfur coals. Thus, OG&E costed scrubbers that were overdesigned based on the coal that was, and is, typically burned. This resulted in two errors that both combined to make the control technology appear less cost effective.

First, the BART Guidelines require that we calculate cost effectiveness on the basis of annualized cost divided by tons of pollutant removed *from the emissions baseline* ($/ton). Therefore, use of a baseline that is lower than would result from burning the higher sulfur coal the scrubber was designed to treat, lowers the denominator in the $/ton equation, and skews the cost effectiveness calculation to appear less cost effective. We account for this mismatch in Option 1 by raising the baseline to match the higher sulfur coal the scrubber system was designed to treat.

Second, although we have adjusted our calculation in response to OG&E's comments, we conclude that the over designed scrubber system was more expensive than necessary to treat the coal OG&E historically burned and continues to burn. We account for this mismatch in Option 2 by slightly decreasing the capital costs to reflect a scrubber designed to treat the exhaust gases from the coal OG&E has historically burned, while retaining the historical emission baseline.

We find that, whether OG&E chooses to burn its current coal, or burn a coal that its scrubber system was designed to treat, the resulting cost effectiveness lies in the range defined by Options 1 and 2 (below). We find that both options are cost effective in light of the five-step BART analysis.

<u>Cost Adjustment of Scrubber in Option 2</u>

As we describe above, in calculating cost effectiveness under Option 2 in our proposal, we also analyzed the cost of a dry scrubber for the OG&E units, assuming the scrubber would be re-sized to scrub the coal being currently burned. We did this using a cost scaling equation based on the differences between the sulfur content of the coal OG&E typically burns versus the coal their scrubber system was designed to treat. OG&E responded in a comment to us that the exhaust gas flow rate, rather than the sulfur content, is the primary variable that affects scrubber sizing. Thus, the use of a higher sulfur coal would not significantly affect the size, and hence the cost of a scrubber. Based on the information OG&E supplied, we re-adjusted the cost of Option 2 based on certain design algorithms in the dry scrubber absorber (SDA) cost model developed by OG&E's contractor, Sargent & Lundy for EPA.[22] The results of this analysis indicate that the use of the lower sulfur coal alone would reduce the capital cost of the scrubber by about $7 million or 3%.

[22] Sargent & Lundy, IPM Model - Revisions to Cost and Performance for APC Technologies, SDA FGD Cost Development Methodology, Final, August 2010, Table 1.

Other Issues Concerning Site-Specific Costs

In addition to those comments that resulted in a modification to our cost basis, two others merit particular emphasis. These comments led us to investigate two other line item costs to determine whether we underestimated the costs of the scrubbers for the four OG&E units by not using site-specific values. We determined that, even if we made changes to the cost calculations to account for these site-specific cost line items, the cost of controls would be even more cost-effective than our proposed range. These line items costs are: 1) auxiliary power; and 2) capacity factor for Option 2. These issues were uncovered during the course of preparing our response to comments, but did not directly follow from information provided by the comments. Thus, we did not further modify our cost basis, but discuss these issues as they serve to further illustrate why we believe our cost basis likely overestimates the costs of control and that our conclusions that dry scrubbers for the six OG&E and AEP/PSO units are cost effective and are reasonable.

a. Auxiliary Power

We received a comment that EPA incorrectly lowered OG&E's auxiliary power costs for the DFGD/FF control systems on the premise that the unit cost of electricity used in the cost estimate was higher than the cost to OG&E to produce electricity. Auxiliary power is the sum of the demand by the scrubber, baghouse, and booster fans (the latter required to overcome the increase in backpressure from adding these controls) and is accounted for in a BART cost effectiveness analysis. OG&E used average year-round market retail rates of $85.93/MWh (2015 dollars) for Sooner and $83.83/MWh (2014 dollars) for Muskogee as the best long-run measure of auxiliary power costs. The cost of auxiliary power affects the cost effectiveness calculation in both Option 1 and Option 2.

We have concluded that our proposed cost of $50/MWh is an appropriate estimate of the cost of auxiliary power for the four OG&E units. We arrived at this number because OG&E's summary of auxiliary power costs indicates the range used for other similar facilities is $30/MWh to $50/MWh.[23] We took the most conservative view based on this report and adopted the highest value in this range. However, even if we were to take OG&E's view that a site-specific auxiliary power cost is more appropriate, we disagree that we could use the market-value of power for purposes of the BART determination because the utility would not pay market price. We estimate that the actual site-specific cost of auxiliary power for the four OG&E units is no more than $36/MWh. However, because we arrived at this figure due to independent research that we do not view as being a logical outgrowth of the comment we received, we have not revised our cost effectiveness analysis to use $36/MWh. Instead, we retain the $50/MWh figure we proposed. We view this example as further evidence that OG&E's scrubber costs are artificially inflated, and that the cost of controls under both options in our FIP is reasonable.

b. Capacity Factor in Option 2

[23] December 28, 2009 S&L FollowUp Report, Attach. C, pdf 109 (Gerald Gentleman - $45.65/MWh; White Bluff - $47/MWh; Boardman/Northeastern/Naughton - $50/MWh; Nebraska City - $30/MWh).

ODEQ calculated future annual emissions assuming a 90% capacity factor. In comparison, during the years that established the emission baseline (2004-2006), the units operated only 78.5% of the time, on average. Thus, ODEQ's calculation of emission reductions from scrubbers compares uncontrolled 2004-2006 baseline emissions, when the units operated at 78.5% of capacity, to controlled emissions when burning a higher sulfur coal, with the units operating at 90% capacity. This mismatch results in two errors in estimating the cost of Option 2: The future emissions were overestimated, but certain operating costs were underestimated. Correcting these errors in the cost calculations would make Option 2 even more cost effective than our proposed calculations, as the resulting decrease in the operating costs would offset the increase in the capacity factor in the $/ton calculation. However, because we arrived at these errors due to independent research that we do not view as being a logical outgrowth of the comment we received, we have not revised our cost effectiveness analysis in Option 2. We view this example as further evidence that OG&E's scrubber costs are artificially inflated, and that the cost of controls under both options in our FIP is reasonable.

We made no additional changes to our cost evaluation as a result of the comments we received. As summary of our final $/ton cost effectiveness calculations are provided below:

	Proposal (Sooner/Muskogee)	Final (Sooner/Muskogee)
Option 1	$1,291/$1,317	$1,239/$1,276
Option 2	$2,048/$2,366	$2,747/$3,032

3. Cost Calculations for the AEP/PSO Units

We received a number of comments from AEP/PSO concerning our SO_2 BART cost estimate for the two Northeastern units. Some of these comments objected to our incorporation of OG&E's site specific information in AEP/PSO's scrubber cost estimate. Other comments objected to specific line item costs in our cost estimates for both wet and dry scrubbers. We proposed the cost effectiveness of dry scrubbing to be $1,544/ton, and the cost effectiveness of wet scrubbers to be approximately 9% more. As we note in more detail in our separate Supplemental RTC, the ODEQ SO_2 BART evaluation of AEP/PSO Northeastern units 3 and 4 does not provide any support for its assumption that the cost of dry scrubbers is $555/kW to $582/kW, figures we consider to be high in comparison to other BART scrubber determinations. However, the Northeastern units are very similar to the Sooner and Muskogee units, for which vendor quotes were available for dry scrubbers. We used these vendor quotes to support our cost analysis for the Northeastern units. After having reviewed all comments concerning our SO_2 BART cost estimates for the AEP/PSO units, we have determined that no changes were warranted to our proposed cost estimates. Thus, absent any supporting information from AEP/PSO for any of the capital costs it presents, we find our BART SO_2 cost evaluation to be well founded, representative of the AEP/PSO units in question, and based on the best information available to us.

4. Conclusion

We find that under Option 1, the costs to comply with the FIP will be $1,239/ton for Units 1 and 2 of the OG&E Sooner plant and $1,276/ton for Units 4 and 5 of the OG&E Muskogee plant. Under Option 2, the cost to comply with the FIP will be $2,747/ton for Units 1 and 2 of the OG&E Sooner plant and $3,032/ton for Units 4 and 5 of the OG&E Muskogee plant. For Units 3 and 4 of the AEP/PSO Northeastern plant, we find that the costs to comply with the FIP remain at $1,544/ton, as we proposed. We find these ranges to be cost effective for these six units under the five-step analysis for BART under the RHR. As previously stated, our complete, technical responses to comments received on the issue of costs are in the Supplemental RTC in the docket.

F. Summary of Responses to Visibility Improvement Analysis Comments

We received comments on Step 5 of BART: degree of improvement in visibility which may reasonably be anticipated to result from the use of scrubber technology. Commenters contested our determination that OG&E and AEP/PSO's facilities significantly contribute to visibility impairment. We explain that we find that dry scrubbers are cost effective for the six OG&E and AEP/PSO units, in light of the visibility improvement these controls are predicted to achieve. Commenters also disputed our determination not to use the $/deciview metric in the Step 5 BART analysis when this approach was used by ODEQ. OG&E provided a $/deciview analysis for its units and comparable BART determination performed by us. In our analysis for our BART FIP for OG&E and AEP/PSO, we did not evaluate $/deciview. We explain that the BART Guidelines list the $/deciview metric as an optional cost effectiveness measure that can be employed along with the required $/ton metric for use in a BART evaluation. The metric can be useful in comparing control strategies or as additional information in the BART determination process; however, due to the complexity of the technical issues surrounding regional haze, we have never recommended the use of this metric as a cutpoint in making BART determinations. We note that to use the $/deciview metric as the main determining factor would most likely require the development of thresholds of acceptable costs per deciview of improvement for BART determinations for both single and multiple Class I analyses. We have not developed such thresholds for use in BART determination made by us. As OG&E acknowledges, EPA did not use this metric as part of its proposed BART determinations for either the Four Corners Power Plant FIP in AZ, or the San Juan Generating Station FIP in NM. Generally speaking, while the metric can be useful if thoughtfully applied, we view the use of the $/deciview metric as suggesting a level of precision in the calculation of visibility impacts that is not justified in many cases. While we did not use a $/deciview metric, we did, however, consider the visibility benefits and costs of control together, as noted above by weighing the costs in light of the predicted visibility improvement.

G. Summary of Responses to Comments Received on the SO_2 *BART Emission Limit*

We received comments stating we did not adequately support our SO_2 BART emission limit of 0.06 lbs/MMBtu for the six OG&E and AEP/PSO units. In analyzing the control technology, the RHR mandates that we take into account the most stringent emission control level that the technology is capable of achieving. 70 FR 39104, at 39166. In accordance with the RHR, when identifying an emissions performance level to evaluate under BART, consideration of recent regulatory decisions and performance data (e.g. manufacturer's data, engineering estimates, and the experience of other sources) is required. *Id.* In determining our SO_2 BART emission limit of 0.06 lbs/MMBtu, we drew on a number of sources of information. These include industry reports, vendor quotes, the engineering analysis contained in the TSD, and the historical emissions data for other similar coal fired power plants. As we state in the TSD and affirm, a dry scrubber at Sooner or Muskogee, designed as costed, could meet an SO_2 emission limit of 0.06 lb/MMBtu based on 30-day BOD average, when burning coal containing 0.51 to 1.18 lb/MMBtu SO_2. We conclude the same is true for the AEP/PSO Northeastern units because they have historically burned coal with a sulfur content within this range.[24]

Among other objections, OG&E states we cannot rely on the SO_2 emission performance of new facilities as an indicator of the performance potential of retrofit scrubbers. OG&E presents data on what it states are the best performing scrubber installations in the United States, and contends that the lowest emission rate achieved by a retrofit on an annual basis is 0.088 lbs/MMBtu. We explain that a scrubber, regardless of type, is not influenced by whether the flue gas comes from a new boiler or an old boiler located in an existing plant. The scrubber merely reacts to physical and chemical characteristics of the gas stream. Therefore, although we use other sources of information to justify our SO_2 BART emission limit, we find that considering emission data from new scrubber installations to support our decision is appropriate. In so doing, we analyzed the historical emissions data of several units that we discuss above in response to another comment, which OG&E included in its comment. We reviewed the performance of three units that are of similar size and burn similar coal. One unit, TS Power Plant, has an emission limit that requires emissions to be significantly controlled and has been able to maintain its emissions below 0.06 lbs/MMBtu on a 30 day BOD basis continuously. We

[24] TSD, Appendix C, page 43.

also reviewed the performance of two other units that demonstrate the ability to maintain emissions below the 0.06 lbs/MMBtu limit for long periods of time. We note that these units do not have as constraining emission limits so they do not have to control their emissions as closely. This and other sources of information we outline above and in our Supplemental RTC cause us to conclude our proposed SO_2 BART emission limit of 0.06 lbs/MMBtu, calculated on the basis of a 30 day BOD, for the six OG&E and AEP/PSO units is technically feasible and therefore the correct SO_2 limit for BART.

OG&E also states that we should include in our proposed SO_2 BART emission limit a compliance margin. OG&E suggests that a SO_2 emission of 0.10 is required to provide a "reasonable margin for operating fluctuations and compliance." We reply that we are modifying the compliance averaging period from a 30 calendar period to a 30 day Boiler Operating Day (BOD) period. As the BART Guidelines direct, "[y]ou should consider a boiler operating day to be any 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time at the steam generating unit."[25] To calculate a 30 day rolling average based on boiler operating day, the average of the last 30 "boiler operating days" is used. In other words, days are skipped when the unit is down, as for maintenance. This, in effect, provides a margin by eliminating spikes that occur at the beginning and end of outages, and is consistent with the BART Guidelines.

In our separate Supplemental RTC, we also discuss several other objections OG&E raises in its comments. These include objections to our reliance on a National Lime Association scrubber performance chart, OG&E's contention that our proposed SO_2 BART emission is more

[25] 70 FR 39104, at 39172.

representative of a LAER limit, and the technical capability of dry scrubbing. After addressing these issues, we find that our proposed SO_2 BART emission for the six OG&E and AEP/PSO units remains at rate of 0.06 lbs/MMBtu.

H. Summary of Responses to Comments Received on the SO_2 *BART Compliance Timeframe*

We proposed that compliance with our SO_2 BART emission limits be within three years of the effective date of our final rule. We solicited comments on alternative timeframes, from as few as two (2) years to up to five (5) years from the effective date of our final rule. We received comments that retrofitting of scrubbers is now routine in the United States and that approximately 290 coal-fired units totaling about 116,000 MW nationwide have been retrofit with scrubbers since 1990. The commenter cites to many examples of SO_2 scrubbers being installed at coal-fired power plants within a three year timeframe. OG&E, and others state that our proposed three year schedule focuses on actual construction timelines, but fails to acknowledge or allow sufficient time for the engineering, design, and permit processes that must be completed prior to the commencement of construction. They state a compliance schedule of from 52-54 months would be required.

Although we do not specify what technology the six OG&E and AEP/PSO units must use to satisfy the SO_2 BART emission limit, we expect that either dry or wet SO_2 scrubbers will be used, or that the SO_2 limit will be met by switching one or more of the units to natural gas. We agree that SO_2 scrubbers have been installed at other facilities with construction timeframes of three years or less. However, we also agree with OG&E and AEP/PSO that there may be issues such as PSD permitting, and the construction/expansion of a landfill that may not be reflected in the example compliance times reported by the commenter. Therefore, we find that compliance with the emission limits be within five years of the effective date of our final rule.

I. Comments Supporting Conversion to Natural Gas and/or Renewable Energy Sources

Comment: Several parties submitted comments noting that switching to natural gas-fired electricity is feasible and demonstrated in practice. One of the commenters points out that, of the three subject sites, two have existing major natural gas supplies (OG&E Muskogee and AEP/PSO Northeastern) and that fuel switching will require construction of new or expanded natural gas supply and electric interconnection facilities. The commenter states that expanding along existing gas supply lines would cost less and take less time than constructing a new line. The commenters have stressed that natural gas produces comparatively low emissions of many pollutants, including haze-causing pollutants, air toxics, and greenhouse gases. Commenters also noted use of natural gas as a fuel source would eliminate the need to manage coal combustion waste and scrubber waste. Several commenters who support the switch from coal combustion to natural gas combustion cited the availability and abundance of natural gas as a natural resource, particularly in Oklahoma.

Response: We agree that switching of existing coal-fired power generating units to natural gas, either through conversion of existing boilers or installation of new power generating units, is technically feasible and demonstrated in practice. As stated in our proposal, the owners of the units subject to the FIP may elect to reconfigure the units to burn natural gas as means of satisfying their BART obligations under section 51.308(e). Switching to natural gas would be an acceptable method of complying with the limits proposed in the FIP, because natural gas combustion inherently results in much lower SO_2 emissions. We agree that natural gas may result in lower emissions of other pollutants and offer other environmental advantages. The owners of each subject unit may take these advantages, as well as the availability and pricing information, into consideration as they evaluate this option for complying with SO_2 BART emission limits.

Comment: Eight commenters responded to our request for comments on the compliance deadline for the six BART-subject units and whether it would be appropriate to extend that deadline for those utilities that elected to switch from coal to natural gas in order to comply with the BART emission limits. Several of these commenters note that switching to natural gas can be accomplished in less than three years if utilities enter into long-term power purchase agreements with existing natural gas-fired power generators but utilities that choose to construct new gas-fired units or convert existing units will likely require more time. They indicate that the requirements to engage in competitive bidding, complete engineering designs, prepare budgets, obtain necessary permits, and equipment installation will likely require up to five years to complete. One of these commenters points out that OG&E has already studied fuel-switching at the system and plant levels and that the typical lead time of construction of new natural gas-fired combined cycle combustion turbines is four years.

Numerous commenters express their support for extending the compliance deadline to five years for units that will be converted to, or replaced with, natural gas-fired power generating units. These commenters cite the broad collateral benefits and overall superiority of switching to a cleaner fuel source over installing additional controls on the existing units and continuing to burn coal.

Multiple other commenters, however, expressed the opinion that the utilities have had ample time already to transition away from coal to cleaner or renewable power generation and that the affected utilities should phase out the BART-subject coal-fired units as quickly as possible. These commenters feel that the proposed compliance deadline of three years is adequate.

ODEQ submitted comments supporting a fourteen and one-half month extension (to four years and two and one-half months total) on the installation of scrubbers and a seven and one-half year extension (to ten and one-half years total) for switching to natural gas.

Response: We thank the commenters for their responses to our request for comments on the proposed compliance deadline. As we have discussed elsewhere in our response to comments we find that a compliance deadline of five years is appropriate for the six OG&E and AEP/PSO units to comply with our FIP SO_2 emission limit. After reviewing the information provided by the commenters, we find that the same compliance deadline of five years is appropriate for any of the six OG&E and AEP/PSO units that elect to comply with the FIP SO_2 emission limit by converting an existing unit to natural gas or replacing it with a new, natural gas-fired unit.

Comment: Several commenters provided information concerning underutilized electrical generation capacity through natural gas combustion in Oklahoma. One commenter further suggested that fuel switching could be achieved by imposition of annual emissions caps on the BART-subject, coal-fired units. According to the commenter, such a scheme would provide the affected utilities with the flexibility to shift power generation to existing gas-fired generating units or purchase power from merchant generators. The commenter states that there is an exception provision in the RH regulations at 40 CFR 51.308(e)(2) that allows for imposition of operating limits on BART-eligible units in lieu of conventional BART reductions if the regulating authority implements an emission trading program.

Another commenter noted that switching to natural gas-fired generation, either through conversion of existing units or replacement with new units, would result in power plants better suited to integrate with variable wind power generation.

Response: Section 51.308(e)(2) allows Oklahoma to implement an emissions trading program or other alternative measure in lieu of BART. Among other requirements, such an alternative to BART must achieve greater reasonable progress than would be achieved through the installation and operation of BART. However, Oklahoma did not include such a program as part of its RH SIP, and we cannot require Oklahoma to establish an emission trading program that would support annual emission caps or operational limits on the six BART-subject units. We also note that as a practical matter, there is no longer adequate time to develop and implement such an emissions trading program and meet our consent decree deadline with WildEarth Guardians of December 13, 2011 if we attempted to develop and implement such an emission trading program as part of our action.[26] Whether or not existing natural gas-fired power generation capacity in Oklahoma and other parts of the Southwest Power Pool is underutilized has no direct bearing on our SO_2 BART determinations.

Comment: We received multiple comments from numerous parties concerning the economics of switching from coal-fired to natural gas-fired power generation. These comments focused on a wide range of economic issues, including cost-benefit analysis of one BART compliance alternative over another, future risk to ratepayers due to future maintenance and compliance costs, economic impact of increasing reliance on renewable energy sources, and ancillary benefits to the economy of switching from coal to natural gas or renewable energy sources.

Many of the comments we received pertain to the additional economic burden of addressing coal combustion and scrubber waste that would continue to be generated by the six BART-subject coal-fired units if the utilities elect to comply with the BART requirements of the proposed FIP by installing scrubber units, rather than fuel switching. One commenter provided an economic analysis indicating that containment of the coal ash and scrubber waste would cost $180 million in capital investment and $2 - $5 million annually for disposal of residuals if the utilities can sell the fly ash, or up to $9 million annually if the fly ash cannot be sold. The commenter further asserts that scrubbing all six of the BART-subject coal-fired units could generate up to 600,000 tons per year of flue gas desulfurization waste byproducts, the disposal of which could cost an additional $22 million annually. Two commenters have asserted that the power generation capacity of the six OG&E and AEP/PSO units can be replaced with the

[26] *See*, *WildEarth Guardians v. Jackson*, Case No. 4:09-cv-02453-CW (N. Dist. Cal.).

construction of new, modern natural gas-fired combined cycle turbines for less money than would be required to install scrubbers on the coal-fired units to meet BART emission limits.

Other comments focused on the likely imposition of future, additional environmental regulatory compliance costs associated with continued firing of coal, such as requirements for new baghouses to control emissions of particulate matter and metals, construction of improved and expanded containment of coal combustion residuals, and carbon emission reductions or sequestration. These commenters noted that attempting to further extend the lives of the six OG&E and AEP/PSO units is a bad investment when such additional controls for other pollutants are foreseeable, and that switching to natural gas power generation would reduce the risk to ratepayers of the eventual cost increases associated with these additional regulatory requirements.

Several commenters noted that the six OG&E and AEP/PSO units are approaching the end of their useful lives and that switching to natural gas and renewable energy sources will decrease the risk to ratepayers of increased maintenance costs due to the advanced age of the units.

Other commenters, some of whom identified themselves as ratepayers at the affected utilities, indicated that they would be willing to pay an increase in power rates in exchange for power that was generated by cleaner fuels or renewable energy sources. These commenters cited the overall health and environmental benefits that would result from a transition away from coal-fired power and expressed their belief that such benefits would outweigh any potential increase in electricity rates.

Finally, two commenters suggested that switching to natural gas and/or renewable energy sources would have collateral economic benefits by creating new jobs and providing general economic stimulus in the region.

Response: We affirm that each of the sources subject to BART under the FIP can acceptably meet the emission limits in the FIP by switching to natural gas. As the companies evaluate how to satisfy their BART obligations, we encourage them to consider switching from coal to natural gas at the six affected units as this may offer numerous, significant long-term financial and environmental benefits over the option of continued use of coal with additional controls. As was stated in our proposal, we do not wish to dissuade companies from exercising this option. As we discuss elsewhere in our response to comments and Supplemental RTC, we find that a compliance deadline of five years is appropriate for any of the six OG&E and AEP/PSO units that elect to comply with the FIP SO_2 emission limit by converting an existing unit to natural gas or replacing it with a new, natural gas-fired unit.

Comment: Several commenters expressed concern over the potential rate increases that might result from a switch to natural gas or some form of renewable energy sources and the impact of those rate increases on households with low or fixed incomes.

Response: The companies owning each of the sources subject to BART are only required to satisfy the SO_2 BART emission limits at those sources. Our action only contemplates the reconfiguration of existing units. We have determined that reconfiguration would be cost effective with application of dry and wet scrubbing technology. Though the SO_2 BART emission limits may also be met with reconfiguration of the units to burn natural gas, the companies themselves are free to determine whether this option best responds to future customer needs and preferences, including any potential impact on rates. As we state elsewhere in this response to comments and the Supplemental RTC, although we based our BART determination of the use of SO_2 dry scrubbers, the owners of the six units in question are free to consider any technology to meet their SO_2 BART obligations, including switching to natural gas. We acknowledge the potential benefits that the commenters suggest of switching the units in question to burn natural gas. Renewable energy technology is not a retrofit option for the sources subject to BART and is accordingly outside the scope of our action.

Comment: Several commenters have expressed the view that it does not make good economic sense to invest heavily in new control equipment in order to meet BART on units that are so close to retirement. Some of these commenters point out that it makes more sense to invest in new natural gas-fired units instead of converting the existing boilers to burn natural gas, given the size of the investments being considered and the advanced age of the existing coal-fired units.

Several of the comments focused on the long-term economic benefits of construction of new natural gas-fired units over conversion of the existing boilers at the six coal-fired units to meet the BART emission limits.

Response The BART guidelines do allow for consideration of the remaining useful life of facilities when considering the costs of potential BART controls. Such a claim would have to be secured by an enforceable requirement. Neither OG&E nor AEP/PSO claimed any such restriction on the operation of these six units and Oklahoma did not submit any enforceable document for action by us. Consequently, we assumed a remaining useful life of 30 years in our BART analysis.

If OG&E and/or AEP/PSO decide the units in question have a shorter useful life such that installing scrubbers is no longer cost effective, and are willing to accept an enforceable requirement to that effect, a revised BART analysis could be submitted by the plant(s) in question and our FIP could be re-analyzed accordingly. Similarly, we could also review a revised SIP submitted by ODEQ.

Comment: Numerous commenters expressed broad support for transitioning away from coal and other fossil fuels to sources of energy that are completely renewable, such as wind and solar-generated power. These commenters recommend that the BART-subject units should be replaced with wind-powered units where possible and that natural gas should be used for power generation during periods of low wind yield. One of the commenters notes that Oklahoma and other parts of the Southwest Power Pool (SPP) have enormous potential for wind farm development and that as of July 2010 the SPP transmission interconnection queue had 111 wind generation projects totaling over 20,000 MW and an additional 7,470 MW of incremental wind development. Comments received on this subject also noted that wind power can be developed at relatively low costs and that the money the utilities currently spend on the importation of coal and handling the byproducts of its combustion would be better spent on construction of additional wind generating capacity.

Response: Renewable energy technology is not a retrofit option for the sources subject to BART and is therefore outside the scope of our SO_2 BART determination. We do generally acknowledge that many kinds of renewable energy do not produce haze-causing pollutants, and transitioning to those sources of energy could lead to visibility improvements.

Comment: We received opinions and data from four commenters expressing support for increased energy efficiency efforts as a technique for lowering power demand and therefore reducing the combustion of fossil fuels and its impact on the environment. One of these commenters noted that the affected utilities have begun some energy efficiency programs and that with increased effort they should be able to realize the successes of other programs elsewhere in the country that have seen cumulative reductions in annual power consumption of 5 – 8 percent since 2004. The commenter notes that OG&E, in particular, should be able to reduce power demand by up to 1,200 GWh/year and 2,100 GWh/year after five and ten years, respectively, at an annual reduction goal of one percent, or as much as 1,800 GWh/year and 3,100 GWh/year after five and ten years, respectively, at an annual reduction goal of one and a half percent.

Response: While not specifically within the scope by our SO_2 BART determination or our approval of other aspects of the state's RH SIP, we acknowledge that efficiency programs that reduce reliance on sources of haze-causing pollutants may promote visibility improvements.

Comment: OG&E states that if it is required to decide whether to install scrubbers or retire and replace electric generating units with natural gas on roughly the same time frame, the economic analysis suggests that rate increases to customers will be lower with scrubbers. Installation of scrubbers is projected to cost more than $1.5 billion. OG&E is concerned that with this type of capital investment, it would be locked economically into maximizing the use of its coal-fired units for the foreseeable future. OG&E states the agreement outlined by ODEQ in the SIP (and rejected by EPA) would reduce "the cumulative SO_2 emissions from Sooner Units 1 and 2 and Muskogee Units 4 and 5 [to] approximately fifty-seven percent (57%) less than would be achieved through the installation and operation of Dry FGD with SDA at all four (4) units." OG&E states it should have the flexibility to take advantage of evolving technologies and to utilize these local clean energy sources at its plants in the future, while achieving the same (or better) reduction in impact on visibility. OG&E states EPA's failure to consider these issues in the proposal is short-sighted, and arbitrary, capricious and contrary to applicable law.

Response: We find the approximately $1.2 billion cost claimed by OG&E in its BART analysis (referenced above as $1.5 billion) for the installation of SO_2 dry scrubbers is in error. As discussed elsewhere in our response to comments and Supplemental RTC, based on our Option 1 and Option 2 analyses, we find the total project costs to range between $290,418,007 to

$299,400,007 for Sooner Units 1 and 2, and from $298,818,917 to 289,791,940 for Muskogee. Further, as we also discuss in our proposal, although we based our SO_2 BART determination on the basis of dry SO_2 scrubbers, OG&E is free to employ other technologies to meet this limit, including switching to natural gas, as long as that switch is completed in the same BART timeframe. We discuss the BART compliance deadline in the response to another comment.

Comment: A commenter stated we failed to consider "the costs of compliance" of converting the six coal-fired generating units to natural gas. Without any explanation, contends OIEC, we proposed that these generating units could be converted to natural gas "as a means of satisfying their BART obligations...." 76 FR 16168, at 16194. The commenter states we failed to consider the costs of compliance of conversion to natural gas, as required by the CAA section 169A(g)(2), and the BART Guidelines, Part 51, Appendix. Y(IV)(D)(4)(a). The commenter states the FIP should therefore be withdrawn.

Response: The commenter's reference to our proposal[27] is fully reproduced as follows:

Should OG&E and/or AEP/PSO elect to reconfigure the above units to burn natural gas, as a means of satisfying their BART obligations under section 51.308(e), that conversion should be completed by the same timeframe. We invite comments as to, considering the engineering and/or management challenges of such a fuel switch, whether the full 5 years allowed under section 308(e)(1)(iv) following the effective date of our final rule would be appropriate.

[27] 76 FR 16168, at 16194.

Under the RHR, [28] we cannot, and did not, evaluate the costs associated with switching the six OG&E and AEP/PSO units over to natural gas for BART. However, after conducting the BART analysis and adopting of emissions limits, alternatives to installing control technologies may achieve the same emission limits. We are open to alternative mechanisms to achieve the BART emissions limits we adopted. As stated in our proposal, we merely afforded OG&E and/or AEP/PSO the opportunity to switch to natural gas as a means of satisfying BART. We also indicated we were willing to consider comments to extend the BART compliance timeframe to the full amount of time allowed under the RHR to accommodate that conversion. Although we based our BART determination of the use of SO_2 scrubbers, the six units in question are free to consider any technology or alternative mechanism to meet their SO_2 BART obligations.

J. Comments Arguing our Proposal Would Hurt the Economy and/or Raise Electricity Rates

Comment: Several commenters expressed concern about adverse effects of electrical bill increases, stating that analyses prepared by the state's utilities, business groups and the Oklahoma Corporation Commission estimate our proposal could increase utility bills in Oklahoma significantly, with some estimates as high as 30 percent. Some commenters stated that the rate increase would result in decreased business investment in Oklahoma; while others stated that it will hurt existing businesses, local governments, and families already struggling from the recession. Several commenters noted that the rate increase will have a disproportionate adverse impact on senior citizens and the disadvantaged, especially individuals living on fixed incomes. Commenters urged us to consider the cost implications of our proposal as we balance the goals of the CAA with the economic impact on consumers, communities, and businesses.

[28] 70 FR 39104, at 39164: "note that it is not our intent to direct States to switch fuel forms, e.g. from coal to gas."

Specifically, one commenter stated that installation of scrubber technologies on aging coal-fired facilities may not be the most cost-effective or environmental approach. Several commenters ask EPA to consider all of the alternatives available, including switching to natural gas over a longer timeframe. One commenter further stated that EPA's proposal is not cost effective and does not significantly improve visibility. Commenters urged EPA to adopt the Oklahoma State plan. A commenter that supported the proposal stated that while the FIP could cause rates to increase somewhat, Oklahoma has the eighth lowest average electricity rates in the country, rates are higher in neighboring states, and the difference in rates may result from the fact that other states have emission controls on a higher percentage of their coal plants.

Response: The federal regulations implementing the CAA's BART provisions require that we evaluate (1) cost 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) remaining useful life of source, and (5) degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. 40 CFR 51.308(e)(1)(ii)(A). After a careful cost review, we have determined that benefits in visibility from implementing our proposal outweigh the increase in costs for the facilities. As discussed in our proposal, we disagree with OG&E's and AEP/PSO's cost estimate for installing scrubbers on the six units addressed by our FIP. After careful review of information provided during the public comment period, we revised our calculation of the total project cost for the four OG&E units from our proposed range of approximately $312,423,000 to $605,685,000, to our final range of approximately $589,237,000 to $607,461,000. We made no changes to the cost basis for the two AEP/PSO units from our proposal. As such, the associated cost investment for AEP/PSO is

$274,100,000. In light of the visibility benefits we predict will occur, we consider this to be cost effective. We take our duty to estimate the cost of controls very seriously, and make every attempt to make a thoughtful and well informed determination. We note that our cost estimate, being about half that of OG&E's will result in significantly less costs being passed on to rate payers. We also note that our FIP allows for any of the six units to switch to natural gas within five years of this final action instead of installing the control technology.

K. Comments Arguing our Proposal Would Help the Economy

Comments: We also received comments that the proposed FIP would help the economy in a variety of ways. One commenter stated that environmental regulations like the RHR improve the economy and create jobs; and industry always finds a way to manage the cost of implementation. One commenter states that cleaner air will boost Oklahoma's productivity and job creation.

Response: Although, we did not consider the potential positive benefits to local economics in making our decision today, we do acknowledge that improved visibility may have a positive impact on tourism. Also, installing the controls required by the BART determination on the six units will take three years or longer to complete. These projects will require well-paid, skilled labor that can potentially be drawn from the local area, which would seem to benefit the economy.

Finally, as we have noted elsewhere in our response to comments, although our action concerns visibility impairment, this action may also result in significant improvements in human health. Improved human health will reduce the healthcare costs and reduce the number of missed school and work days in the community.

L. Comments on Health and Ecosystem Benefits and Other Pollutants

Comments: Several commenters state that pollutants that cause visibility impairment also harm public health. Specifically, commenters assert the following:

RH pollutants include NO_X, SO_2, PM, ammonia, and sulfuric acid. NO_X is a precursor to ground level ozone, which is associated with respiratory diseases, asthma attacks, and decreased lung function. NO_X also reacts with ammonia, moisture, and other compounds to form particulates that can cause and worsen respiratory disease, aggravate heart disease, and lead to premature death. Similarly, SO_2 increases asthma symptoms, leads to increased hospital visits, and can form particulates that aggravate respiratory and heart diseases and cause premature death. Both NO_X and SO_2 cause acid rain. PM can penetrate into the lungs and cause health problems, such as premature mortality, lung disease, aggravated asthma, chronic bronchitis, and heart attacks.

Commenters cite to EPA's estimates that in 2015, full implementation of the RHR nationally will prevent 1,600 premature deaths, 2,200 non-fatal heart attacks, 960 hospital admissions, and over 1 million lost school and work days. The RHR will result in health benefits valued at $8.4 to $9.8 billion annually. More than 100,000 children and 365,000 adults are diagnosed with asthma in Oklahoma, and hospitalizations in Oklahoma due to asthma cost roughly $57.9 million in 2007 alone. Commenters also cite to a Clean Air Task Force finding that the six units at issue in the proposed rule annually cause approximately 118 deaths, 181 heart attacks, 2,037 asthma attacks, 86 hospital admissions, 74 cases of chronic bronchitis, and 129 emergency room visits.

Some commenters also relay personal stories of the health impacts on themselves and their families from the emissions at issue. One commenter is disappointed that the air quality in Oklahoma is so poor that the ODEQ often warns active adults to avoid prolonged outdoor exposure. She notes that ozone action days prevent children from playing outside in the summer. Several children have been hospitalized due to asthma and other illnesses that the commenters attribute to the emissions at issue. One commenter contends that many people who are impacted by this rulemaking are not aware of the rulemaking process, or their rights under that process. Commenters further state that it is EPA's responsibility to protect the air quality and prevent these negative health effects.

Several commenters also assert that NO_X and SO_2 emissions from coal plants harms crops like pecans, barley, and oats, which puts the livelihoods of local farmers at risk, impacts the health of those who consume the contaminated food, and increases the cost of food.

Some commenters want this rulemaking to address health issues. One commenter states that, while the RHR was designed to provide redress for visibility impairment, the BART

Guidelines expressly provide for the consideration of non-air quality environmental impacts in step four of the five-step BART process. This consideration includes the environmental impact on human health.

One commenter states that the power plants have had plenty of time to change operations to comply, but they have failed to do so. Several commenters assert that Oklahoma is unable to properly manage water and air pollution because special interest groups trump science. Another commenter states that coal pollution is devastating tourism and wildlife in Oklahoma. One commenter states that cleaner air will improve the health of its citizens. Some commenters assert that customers are subsidizing the cost of electricity with their health, lives, and livelihoods. One commenter stated that the increase in electricity costs is offset by reducing the healthcare costs to the community to treat illnesses and deaths caused by air pollution from the plants. Another commenter points out that power plants are also built near the most vulnerable and underserved populations in the state, based on the argument that the plants will bring needed jobs. One commenter concludes that it is unfair and unethical to hold citizens hostage to the idea that they must choose between electricity and good health. Several commenters feel that it is appropriate for industry to bear the burden of the cost, rather than pass it on to citizens of the state in the form of healthcare costs. These commenters are amenable to paying higher electricity rates in exchange for healthier air and water. Several commenters request that EPA impose the strongest possible regulation of emissions and enforcement of the CAA.

Another commenter notes that President Nixon created EPA to protect the environment and the CAA was passed to protect air quality in our national parks and wilderness areas.

President Reagan's acid rain program cost less than industry or EPA estimated; and hopefully, installing scrubbers on these coal plants will also cost less than estimated. Further, the CAA allows EPA to limit sulfur oxides, nitrogen dioxides, organic compounds, and particulates to ensure the quality of the air in the region. Several commenters state that coal pollutes throughout the process during extraction, burning, and disposal. One commenter states that the true cost of coal is the cost of its transportation, remediation of coal pollution, and lost tourism and bad public relations in states where coal production occurs through mountaintop removal. Many commenters recommend that Oklahoma convert to more efficient sources of energy such as natural gas, wind, and solar power.

One commenter asserts that he suffered from severe childhood asthma caused by allergies before the coal-fired power plants were built. He states that affordable electricity from the plants allows him to keep his windows closed, thereby preventing allergens from entering his home.

Response: We appreciate the commenters' concerns regarding the negative health impacts of emissions from the six units at issue. We agree that the same NO_X emissions that cause visibility impairment also contribute to the formation of ground-level ozone, which has been linked with respiratory problems, aggravated asthma, and even permanent lung damage. We also agree that SO_2 emissions that cause visibility impairment also contribute to increased asthma symptoms, lead to increased hospital visits, and can form particulates that aggravate respiratory and heart diseases and cause premature death; and that both NO_X and SO_2 cause acid rain. We agree that the same PM emissions that cause visibility impairment can be inhaled deep into lungs, which can cause respiratory problems, decreased lung function, aggravated asthma, bronchitis, and premature death. We agree that these pollutants can have negative impacts on plants and ecosystems, damaging plants, trees, and other vegetation, and reducing forest growth and crop yields, which could have a negative effect on species diversity in ecosystems. Therefore, although our action concerns visibility impairment, we note the potential for significant improvements in human health and the ecosystem.

The CAA states that the non-air quality environmental impacts of compliance are a consideration in determining BART. See CAA Section 169A(g)(2). The BART Guidelines allow for the consideration of non-air quality environmental impacts under 40 CFR 51, Appendix Y(IV)(D)(j). *See also,* 70 FR 39104, at 39169. However, this BART factor generally is considered in order to determine if a control option that is otherwise technically feasible should be eliminated due to adverse environmental impacts. Such impacts could include solid or hazardous waste generation and discharges of polluted water as a result of the control device. Although we may note potential health benefits from the reduction of air pollutants due to the installation of a BART control, we do not consider them as part of the BART determination. While we received many comments concerning health impacts from the ongoing operations of BART-eligible sources, we received no comments asserting that dry and wet scrubbers should be differentiated or eliminated as compliance options based on non-air quality environmental impacts.

Although we appreciate the commenters' encouragement that we adopt even stricter standards, after considering all the comments we received, as we have stated elsewhere in this notice, we believe that the standards proposed in our proposal establish BART and will prevent visibility impairment from the six units.

Issues that the commenters raise about the effect of EPA's action on the cost of electricity are addressed elsewhere in this notice. Additionally, comments that recommend that the six units switch to natural gas or other sources of renewable energy are addressed elsewhere in this notice.

Comments: Several commenters note that coal-plant emissions contain other toxins including mercury, lead, cadmium, chromium, dioxins, formaldehyde, arsenic, radioactive isotopes, oxide, and radon gas. Another commenter is concerned that the toxicity of the pollutants in regional haze is higher in close proximity to the source of emissions.

Specifically, several commenters state that poor reclamation of coal ash from AEP's Shady Point power plant causes negative health impacts in Bokoshe, Oklahoma. These commenters are concerned about the health effects of fly ash because they state it contains arsenic, mercury, lead, cadmium, and other toxins. They describe the project as consisting of transporting coal ash from the plant to an abandoned lead mine in Bokoshe. Commenters claim that the result is a fifty foot wall of toxic coal ash at the reclamation site in Bokoshe. Commenters state that pollution from the reclamation project has damaged property and people's health. They state that fugitive emissions from the trucks and the reclamation site run off into the ground water, polluting drinking water supplies. One commenter also states that fly ash has been used in Oklahoma as repair material for county roads. Commenters state that sixteen to twenty families living nearby have cancer, children have asthma, and calves in the area are stillborn. One commenter states that EPA's proposal to put scrubbers on the units at issue will help address asthma, but these scrubbers will cause emissions of toxic fly ash.

Several commenters are concerned that the mercury, chromium, and arsenic from the coal-fired power plants are contaminating food, primarily fish. One commenter contends that these chemicals are carcinogenic and bioaccumulate. As a result, they state, some fish in Oklahoma have high levels of toxic materials and cannot be consumed. Commenters note that mercury contamination is so extreme that larger fish species are unsafe for pregnant women to eat. One commenter states that mercury is a neurotoxin that negatively affects a child's ability to talk, walk, read, and learn. Several commenters point out that ODEQ has issued advisories that prohibit eating fish from certain lakes because the mercury content is dangerously high. One commenter further states that sixteen out of fifty of the lakes in Oklahoma have elevated levels of mercury.

Response: Although we appreciate the commenters' concerns regarding the potential negative health impacts from toxic emissions from the six units at issue, we note that we are not quantifying any toxic emissions that may be emitted, and such emissions are not considered to be visibility impairing pollutants. Therefore, consideration of the toxic emissions is outside the scope of this rulemaking under the RHR. However, please note that other provisions of the CAA, as well as other environmental statutes and regulations address toxic emissions, such as the ones noted here. EPA implements such programs to protect human health and the environment from the negative impacts of these pollutants, and Oklahoma's SIP is required to include provisions consistent with these federal requirements to the extent that they are applicable.

Comment: One commenter mentions the impacts of the transport of emissions from existing and planned coal plants in Texas, stating that sixty percent of mercury pollution in Oklahoma comes from Texas. He requests that EPA accelerates mercury testing in Oklahoma's land and lakes.

Response: While we understand the commenter's concern with the impacts of transport emission from Texas on water bodies in Oklahoma, mercury testing of water bodies is outside the scope of our action. Mercury is not considered a visibility impairing pollutant; it is an air toxic regulated under CAA requirements that are distinct from the RHR and CAA section 110(a)(2)(D)(i)(II).

Comments: Several commenters discuss the impact of coal power on climate change. One commenter also notes that we should regulate CO_2 because ninety-seven percent of scientists agree that it is causing climate change. He contends that coal fired power plants are contributing to climate change, stating that the CO_2 level has risen from 280 ppm during the pre-industrial age to 380 ppm today. He cites the IPCC and others who state that the CO_2 level should not exceed 350 ppm. He also discusses the increasing temperatures and potential for sea level rise in the near future. The commenter states that we need to address climate change now.

Response: While we understand the commenters' concerns with respect to climate change, consideration of climate change is outside the scope of our action on the RHR. While CO_2 is a greenhouse gas (GHG), it is not considered a visibility impairing pollutant. However, EPA implements regulations that address GHGs in order to protect the public and the environment from the negative impacts of climate change. Additionally, Oklahoma's SIP is required to include provisions consistent with those federal requirements.

M. Miscellaneous Comments

Comment: OG&E states that we found a defect in Oklahoma's Long Term Strategy (LTS) because CENRAP modeling assumed the presumptive SO_2 BART limit (0.15 lb/mmBtu) for OG&E's Sooner and Muskogee facilities, which was not secured by Oklahoma in its SIP. OG&E states we reasoned that the proposed FIP was necessary to cure these defects. OG&E asserts we may not pre-determine the BART SO_2 emissions limit based on assumptions made during regional modeling, but the emissions limit should be determined based on the five statutory factors as applied to an individual facility.

Further, OG&E states our reasoning with respect to the Oklahoma LTS is in error. When setting reasonable progress goals for their own Class I areas, OG&E states, the states are authorized to consider the same five statutory factors that are used in determining BART, including the costs of additional controls. OG&E states that Oklahoma did not specify additional SO_2 controls for the Sooner and Muskogee units as part of Oklahoma's LTS for the Wichita Mountains. OG&E notes that for Class I areas in other states, a state must ensure that it has included in its LTS all measures needed to achieve its apportionment of emission reduction obligations agreed upon through the regional planning process. 40 C.F.R. § 51.308(d)(2)(ii). OG&E states that ODEQ found that its LTS required no further controls for Oklahoma sources because emissions from Oklahoma were found (through the regional planning process) to impair visibility at all relevant Class I areas other than Wichita Mountains only insignificantly. Thus, OG&E reasons, the Oklahoma LTS is consistent with the agreements reached during regional planning. OG&E states we failed to justify, or explain, our basis for assuming that the regional planning process would have come to a different conclusion concerning Oklahoma's impact on other states' Class I areas if a different SO_2 emission rate had been assumed for the Sooner and Muskogee units in question.

Response: We disagree with OG&E's assertion that Oklahoma's decision not to require controls for the six OG&E and AEP/PSO units is consistent with the RH requirements for the LTS, section 51.308(d)(3)(ii), which requires:

> Where other States cause or contribute to impairment in a mandatory Class I Federal area, the State must demonstrate that it has included in its implementation plan all measures necessary to obtain its share of the emission reductions needed to meet the progress goal for the area. If the State has participated in a regional planning process, the State must ensure it has included all measures needed to achieve its apportionment of emission reduction obligations agreed upon through that process.

Oklahoma did engage in a regional planning process. This regional planning process included a forum in which state representatives built emission inventories that assumed that specific pollution sources would be controlled to specific levels. This included assumptions that the six OG&E and AEP/PSO units would be controlled to presumptive BART emission levels for SO_2. Visibility modeling projections subsequently assumed those emission reductions. However, Oklahoma, in its subsequent RH SIP, did not include these promised reductions on which the other states are presently relying.

We note the CENRAP RPO process was open and representatives from industry occasionally attended CENRAP meetings and had an opportunity to engage in this process. ODEQ engaged in consultations under 51.308(d)(3)(i), which requires:

> Where the State has emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal area located in another State or States, the State must consult with the other State(s) in order to develop coordinated emission management strategies. The State must consult with any other State having emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal area within the State.

All states that engaged in these consultations were involved in the discussions leading up to, and the actual construction of the emission inventories and the modeling strategy. These LTS consultations therefore assumed OG&E's Sooner and Muskogee sources would be controlled to the presumptive limit levels and made decisions regarding whether additional controls to address LTS were needed on that basis. Thus, we are disapproving Oklahoma's LTS.

Furthermore, and notwithstanding the above LTS discussion, we disagree with OG&E's assertion that our BART analysis of the six OG&E and AEP/PSO units is due to the CENRAP modeling. As we discussed in our proposal, we arrived at our proposed BART determination for the six units in question after performing the BART analysis required under the RHR.

Comment: AEP/PSO commented that we should clarify that new monitoring systems proposed under section 52.1923(e) do not need to be installed for both Unit 3 and Unit 4 of the Northeastern plant if the same fuel is used for both units. Instead, they reason, stack emissions should be apportioned to the units based on unit to stack load ratios. AEP/PSO claims the equipment necessary to report emissions for each unit individually will add approximately $250,000 to the cost to comply, and provides no better data on emissions to the atmosphere.

Response: We are affirming that we are in fact requiring that the monitoring described in section 52.1923(e) must be installed separately for each of Units 3 and 4 of the AEP/PSO Northeastern plant even though the same fuel is used for both units. We do not find that it is proper to calculate the emissions of each unit based on its load ratio, as individual SO_2 scrubbers will likely have slightly different performance characteristics and we need to ensure that both units' scrubbers are working properly by monitoring the emissions unit by unit.

Comment: AEP/PSO believes there is a conflict between the language in section 52.1923(d) and (e). Section 52.1923(d) states:

If a valid SO_2 pounds per hour or heat input is not available for any hour for a unit, that heat input and SO_2 pounds per hour shall not be used in the calculation of the 30-day rolling average for SO_2.

Section 52.1923(e) states:

> When valid SO_2 pounds per hour, or SO_2 pounds per million Btu emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, or zero and span adjustments, emission data must be obtained by using other monitoring systems approved by the EPA to provide emission data for a minimum of 18 hours in each 24 hour period and at least 22 out of 30 successive boiler operating days.

Response: We do not see a conflict between the language in sections 52.1923(d) and (e). Paragraph (d) refers to short term, discrete data acquisition problems and paragraph (e) refers to more serious problems that may arise due to fundamental underlying problems with the monitoring system.

Comment: One commenter called for an integrated and comprehensive strategy for EGUs to meet CAA requirements, noting that EGU emissions are subject to the RHR, the $PM_{2.5}$ NAAQS, and the National Emissions Standards for Hazardous Air Pollutants. The commenter stated that to effectively address impacts to human health and RH caused by EGU emissions, the FIP or SIP should require (1) SCR to control NO_X, (2) wet scrubbers to control SO_2 and (3) wet electrostatic precipitators to control condensable particulate matter and acid mists. The commenter also asked us to reconsider our proposal to accept ODEQ's NO_X BART determination, because (1) according to our proposal additional NO_X reductions would achieve significant improvement in visibility over baseline, (2) Nitrate particulates from EGUs are primarily responsible for the majority of visibility impairment during winter days, and (3) the full benefit of wet scrubber controls may not be achieved unless BART controls on NO_X is also required. Concerning SO_2, the commenter expressed concern that the proposal would "approve" a dry scrubber system, along with an older electrostatic precipitator at the OG&E Sooner facility that would achieve poor control of $PM_{2.5}$ emissions. The commenter added that the proposed rule does not provided adequate information to allow the public to understand and compare control measures or to comprehend the extent of underperformance of $PM_{2.5}$ controls.

Another commenter requested additional controls and monitoring for ammonia and sulfuric acid. Specifically the commenter (1) requested that we set emission limits for ammonia and sulfuric acid mist, similar to those proposed for the San Juan Generating Station in New Mexico, (76 FR 491), (2) stated their support for requiring continuous emissions monitors to monitor ammonia, and (3) urged us to require stack testing for sulfuric acid on a more frequent basis than annual monitoring.

Response: The purpose of our plan is to address the CAA BART requirements. Our evaluation found that:

- The NO_X controls adopted by the state meet the CAA BART requirements;
- the SO_2 BART controls we proposed in our FIP, in addition to the state adopted NO_X controls, would lead to significant improvement in visibility and meet the CAA BART requirements;
- additional NO_X controls would not be cost effective; and
- additional pollutant controls are not needed to meet the CAA BART requirements.

Regarding the request for ammonia and sulfuric acid mist emission limits and monitoring, we did propose ammonia and sulfuric acid limits and monitoring, as part of our New Mexico RH FIP for the San Juan Generating Station. 76 FR 491. We did this because we were concerned about the potential for ammonia slip, as a result of the operation of Selective Catalytic Reduction (SCR), and the potential for the growth in sulfuric acid emissions if they were not limited in an enforceable manner. As explained in our response to comments in that action, we ultimately determined that neither an ammonia limit, nor ammonia monitoring was warranted.[29] We did, however, limit sulfuric acid emissions, verified by annual stack testing due to the potential for visibility impairment from increased sulfuric acid emissions associated with operation of SCR. These issues are not applicable here, as our BART FIP is concerned with the

[29] 76 FR 52388, at 52407.

reduction of SO_2, which is not controlled by SCR, and our visibility modeling does not indicate the need to control or monitor sulfuric acid or ammonia emissions.

Comment: One commenter stated that by mandating scrubbers on coal plants that we are trying to phase out does not make sense. Another commenter asked why switching to low sulfur coal is not considered a viable alternative instead of mandating installation of expensive wet gas scrubbers. A third commenter stated that the EPA continues to bog down electricity producers with burdensome paperwork and legal uncertainty and that the EPA RHR is a perfect example of the EPA's lack of economic reality.

Response: We are not attempting to phase out the Oklahoma coal plants that are subject to our FIP. The purpose of our FIP is to control SO_2 emissions from six Oklahoma EGUs that contribute to RH in order to meet the CAA BART requirements. To that end we are setting emissions limits for SO_2. We are not requiring certain control technologies or fuel sources. As discussed earlier, we used the CAA's BART evaluation criteria for our plan and found that it is reasonable and realistic. The paperwork required will ensure compliance with the BART FIP.

Comment: One commenter expressed his view that citizens should ask EPA to set and enforce regulations for haze because the state regulations were inadequate. Another commenter stated that we should reject lower standards suggested by others.

Response: We agree with the commenter that Oklahoma's RH SIP was inadequate in its control of SO_2 from the six OG&E and AEP/PSO units. We find that our FIP will require the proper amount of SO_2 control in order to comply with the RHR.

Comment: A request was submitted that we hold a public hearing on our proposal in Tulsa, Oklahoma.

Response: Originally we scheduled one public hearing in Oklahoma City. In response to the request we added a second hearing in Tulsa on April 14, 2011. The transcripts of both public hearings are available in the docket.

Comment: One commenter asked us to work with ODEQ and the electrical power providers to develop a cost effective plan.

Response: We find that the SO_2 controls required by our FIP are, for the reasons discussed elsewhere in our response to comments and Supplemental RTC, cost effective. We are, however, willing to work with ODEQ and others to develop a SIP that could replace our FIP. Such a SIP will need to meet the CAA and EPA's RH regulations and be consistent with EPA's guidance.

Comment: One commenter supported our proposal's (1) determination that Oklahoma's SO_2 BART limits do not meet the RH regulations, (2) analysis of the visibility improvement resulting from BART controls, (3) determination that low NO_X burners are appropriate as BART, and (4) determination that existing electrostatic precipitators and a 0.1 lbs/MMBtu emissions limit is appropriate as BART for particulate matter.

Response: We appreciate the comments.

Comment: Comments were received expressing concern over other sources of air pollution, such as landfills, coal-fired power plants, the Tar Creek superfund site and sources in Texas.

Response: While we understand the commenter's concern with the impacts of other sources of pollution, the scope of this action is limited to assessing whether certain elements of the Oklahoma RH SIP meet the RH requirements of the CAA, including BART, and addressing any deficiencies identified. We note also that other state and federal statutes and regulations address other sources of air pollution, such as those referenced by the commenters, to protect human health and the environment from the negative impacts of these pollutants.

Comment: Two commenters provided questions at the Oklahoma City public hearing. Several questions relate to Class 1 areas, such as: designation of Class 1 areas; location of Class 1 areas in relation to the six units and other coal-fired units; frequency, degree, and season of visibility impact in Class 1 areas; and tourism at the Class 1 areas. Other questions concern cost of compliance by the six units, such as: annual and total cost; cost and benefit analysis of comparing the cost of compliance to "visitor impact days"; economic impacts to the region; and EPA's authority to implement the FIP. Finally, some questions concern the Wichita Wildlife

Refuge specifically and contemplate sources of haze impacting that Class 1 area, other than the six units.

Response: In general, answers to these questions are: (1) found in our proposal or in supporting documents for our proposal, (2) furnished in response to other comments, or (3) not a necessary or relevant consideration for our action. For responses to these comments, please see the "Addendum Responding to Questions Received" available in the electronic docket for this rulemaking.

Comment: We received comments not related to the proposal. These included comments on:

- Enforcement by EPA and ODEQ;
- a RH educational plan;
- emissions from the LaFarge cement company; and
- eliminating coal as a source of energy.

Response: While these and other comments may be important topics for discussion, we are not addressing these topics as they are outside the scope of our rulemaking.

IV. Statutory and Executive Order Reviews

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

This action is not a "significant regulatory action" under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is therefore not subject to review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011). This action finalizes a source-specific FIP for six units at coal-fired power plants in Oklahoma (OG&E Sooner Plant Units 1 and 2, OG&E Muskogee Plant Units 4 and 5, and AEP/PSO Northeastern Plant Units 3 and 4).

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq*. Burden is defined at 5 CFR 1320.3(b). Under the Paperwork Reduction Act, a “collection of information” is defined as a requirement for “answers to . . .identical reporting or recordkeeping requirements imposed on ten or more persons . . . .” 44 U.S.C. 3502(3)(A). Because the FIP only applies to six units at three power plants (OG&E Sooner Plant, OG&E Muskogee Plant, and AEP/PSO Northeastern Plant) the Paperwork Reduction Act does not apply. See 5 CFR 1320(c).

C. Regulatory Flexibility Act

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

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

After considering the economic impacts of this proposed action on small entities, I certify that this proposed action will not have a significant economic impact on a substantial number of small entities. The FIP for the OG&E Sooner Plant, the Muskogee Plant, and the AEP/PSO Northeastern Plant being finalized today does not impose any new requirements on small entities. See *Mid-Tex Electric Cooperative, Inc. v. FERC*, 773 F.2d 327 (D.C. Cir. 1985).

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538, requires Federal agencies, unless otherwise prohibited by law, to assess the effects of their regulatory actions on state, local, and tribal governments and the private sector. This rule does not contain a Federal mandate that may result in expenditures of $100 million or more, adjusted for inflation, for state, local, and tribal governments, in the aggregate, or the private sector in any one year. Our cost estimate indicates that the total annual cost of compliance with this rule is below this threshold. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This rule contains regulatory requirements that apply only to six units at coal-fired power plants in Oklahoma (OG&E Sooner Plant Units 1 and 2, OG&E Muskogee Plant Units 4 and 5, and AEP/PSO Northeastern Plant Units 3 and 4).

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This action merely prescribes EPA's action to address the state not fully meeting its obligation to prohibit emissions from interfering with other states measures to protect visibility. Thus, Executive Order 13132 does not apply to this action. In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and state and local governments, EPA specifically solicited comment on the proposed rule from state and local officials.

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

This final action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 6, 2000), because the action EPA is taking 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 outreach to Oklahoma Tribes on several occasions in March and April 2011, and offered consultation regarding this action. EPA did not receive any requests for consultation on this rule.

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

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it implements specific standards established by Congress in statutes.

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

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

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. This rule would require the affected units at the OG&E Sooner Plant, the Muskogee Plant, and the AEP/PSO Northeastern Plant to meet the applicable monitoring requirements of 40 CFR part 75. Part 75 already incorporates a number of voluntary consensus standards. Consistent with the Agency's Performance Based Measurement System (PBMS), Part 75 sets forth performance criteria that allow the use of alternative methods to the ones set forth in Part 75. The PBMS approach is intended to be more flexible and cost effective for the regulated community; it is also intended to encourage innovation in analytical technology and improved data quality. At this time, EPA is not recommending any revisions to

Part 75; however, EPA periodically revises the test procedures set forth in Part 75. When EPA revises the test procedures set forth in Part 75 in the future, EPA will address the use of any new voluntary consensus standards that are equivalent. Currently, even if a test procedure is not set forth in Part 75, EPA is not precluding the use of any method, whether it constitutes a voluntary consensus standard or not, as long as it meets the performance criteria specified; however, any alternative methods must be approved through the petition process under 40 CFR 75.66 before they are used.

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

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

EPA has determined that this rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. Our FIP limits emissions of SO_2 from six units at coal-fired power plants in Oklahoma (OG&E Sooner Plant Units 1 and 2, OG&E Muskogee Plant Units 4 and 5, and AEP/PSO Northeastern Plant Units 3 and 4). In addition to our FIP, we also approve SIP elements that also limit the emission of other pollutants, including PM and NO_X.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq*., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective on **[Insert date 30 days from date of publication in the Federal Register]**.

L. Judicial Review

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[Insert date 60 days from date of publication in the Federal Register]**. Pursuant to CAA section 307(d)(1)(B), this action is subject to the requirements of CAA section 307(d) as it promulgates a FIP under CAA section 110(c). Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. See CAA section 307(b)(2).

Approval and Promulgation of Implementation Plans; Oklahoma; Federal Implementation Plan for Interstate Transport of Pollution Affecting Visibility and Best Available Retrofit Technology Determinations

List of Subjects in 40 CFR Part 52

Air pollution control, Environmental protection, Best available retrofit technology, Intergovernmental relations, Interstate transport of pollution, Nitrogen dioxide, Ozone, Particulate matter, Regional haze, Reporting and recordkeeping requirements, Sulfur dioxide, Visibility.

DEC 1 3 2011

Date:

Lisa P. Jackson,

Administrator.

For the reasons set out in the preamble, title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 52 – [AMENDED]

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

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

Subpart LL – [AMENDED]

2. Section 52.1920 is amended as follows:

a. The table in section 52.1920(c) is amended by adding in sequential order under "Subchapter 8. Permits for Part 70 Sources" a new entry for "Part 11. (252:100:8-70 to 252:100:8-77)".

b. The first table in section 52.1920(e) is amended by adding at the end a new entry for "Interstate transport for the 1997 ozone and $PM_{2.5}$ NAAQS (Noninterference with measures required to prevent significant deterioration of air quality or to protect visibility in any other State)", immediately followed by an entry for "Regional haze SIP". "

c. The second table in § 52.1920(e) entitled "EPA Approved Statutes in the Oklahoma SIP" is amended by removing the entry for "Interstate transport for the 1997 ozone and $PM_{2.5}$ NAAQS."

The amendments read as follows:

§ 52.1920 Identification of plan

*   *   *   *   *

(c) * * *

EPA APPROVED OKLAHOMA REGULATIONS

State citation	Title/subject	State effective date	EPA approval date	Explanation
* * * * * * *				
Part 11. (252:100:8-70 to 252:100:8-77)	Visibility Protection Standards	6/15/2007	**[Insert date of FR publication] [Insert FR page number where document begins]**	

(e) * * *

EPA APPROVED NON-REGULATORY PROVISIONS AND QUASI-REGULATORY

MEASURES IN THE OKLAHOMA SIP

Name of SIP provision	Applicable geographic or nonattainment area	State submittal/ effective date	EPA approval date	Explanation
*******				

Interstate transport for the 1997 ozone and $PM_{2.5}$ NAAQS (Noninterference with measures required to prevent significant deterioration of air quality or to protect visibility in any other State)	Statewide	5/1/2007	11/26/2010, 75 FR 72701 **[Insert date of publication in <u>Federal Register</u>] [Insert citation of publication]**	Noninterference with measures required to prevent significant deterioration of air quality in any other State approved 11/26/2010. Noninterference with measures required to protect visibility in any other State partially approved **[Insert date of publication in <u>Federal Register</u>].**

Regional haze SIP: (a) Determination of baseline and natural visibility conditions (b) Coordinating regional haze and reasonably attributable visibility impairment (c) Monitoring strategy and other implementation requirements (d) Coordination with States and Federal Land Managers (e) BART determinations except for the following SO_2 BART determinations: Units 4 and 5 of the Oklahoma Gas and Electric (OG&E) Muskogee plant; Units 1 and 2 of the OG&E Sooner plant; and Units 3 and 4 of the American Electric Power/Public Service Company of Oklahoma (AEP/PSO) Northeastern plant	Statewide	2/17/2010	**[Insert date of publication in Federal Register] [Insert citation of publication]**	**Core requirements of 40 CFR 51.308**

3. Section 52.1923 is added to read as follows:

§ 52.1923 Best Available Retrofit Requirements (BART) for SO_2 and Interstate pollutant transport provisions; What are the FIP requirements for Units 4 and 5 of the Oklahoma Gas and Electric Muskogee plant; Units 1 and 2 of the Oklahoma Gas and Electric Sooner plant; and Units 3 and 4 of the American Electric Power/Public Service Company of Oklahoma Northeastern plant affecting visibility?

(a) *Applicability*. The provisions of this section shall apply to each owner or operator, or successive owners or operators, of the coal burning equipment designated as: Units 4 or 5 of the Oklahoma Gas and Electric Muskogee plant; Units 1 or 2 of the Oklahoma Gas and Electric Sooner plant; and Units 3 or 4 of the American Electric Power/Public Service Company of Oklahoma Northeastern plant.

(b) *Compliance Dates*. Compliance with the requirements of this section is required within five years of the effective date of this rule unless otherwise indicated by compliance dates contained in specific provisions.

(c) *Definitions*. All terms used in this part but not defined herein shall have the meaning given them in the CAA and in parts 51 and 60 of this title. For the purposes of this section:

24-hour period means the period of time between 12:01 a.m. and 12 midnight.

Air pollution control equipment includes selective catalytic control units, baghouses, particulate or gaseous scrubbers, and any other apparatus utilized to control emissions of regulated air contaminants that would be emitted to the atmosphere.

Boiler-operating-day means any 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time at the steam generating unit.

Daily average means the arithmetic average of the hourly values measured in a 24-hour period.

Heat input means heat derived from combustion of fuel in a unit and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources. Heat input shall be calculated in accordance with 40 CFR part 75.

Owner or Operator means any person who owns, leases, operates, controls, or supervises any of the coal burning equipment designated as:

Unit 4 of the Oklahoma Gas and Electric Muskogee plant; or

Unit 5 of the Oklahoma Gas and Electric Muskogee plant; or

Unit 1 of the Oklahoma Gas and Electric Sooner plant; or

Unit 2 of the Oklahoma Gas and Electric Sooner plant; or

Unit 3 of the American Electric Power/Public Service Company of Oklahoma Northeastern plant; or

Unit 4 of the American Electric Power/Public Service Company of Oklahoma Northeastern plant.

Regional Administrator means the Regional Administrator of EPA Region 6 or his/her authorized representative.

Unit means one of the coal fired boilers covered under Paragraph (a), above.

(d) *Emissions Limitations*.

SO_2 *emission limit.* The individual sulfur dioxide emission limit for a unit shall be 0.06 pounds per million British thermal units (lb/MMBtu) as averaged over a rolling 30 boiler-operating-day period. For each unit, SO_2 emissions for each calendar day shall be determined by summing the hourly emissions measured in pounds of SO_2. For each unit, heat input for each boiler-operating-day shall be determined by adding together all hourly heat inputs, in millions of BTU. Each boiler-operating-day the thirty-day rolling average for a unit shall be determined by adding together the pounds of SO_2 from that day and the preceding 29 boiler-operating-days and dividing the total pounds of SO_2 by the sum of the heat input during the same 30 boiler-operating-day period. The result shall be the 30 boiler-operating-day rolling average in terms of lb/MMBtu emissions of SO_2. If a valid SO_2 pounds per hour or heat input is not available for any hour for a unit, that heat input and SO_2 pounds per hour shall not be used in the calculation of the 30 boiler-operating-day rolling average for SO_2.

(e) *Testing and monitoring*.

(1) No later than the compliance date of this regulation, the owner or operator shall install, calibrate, maintain and operate Continuous Emissions Monitoring Systems (CEMS) for SO_2 on Units 4 and 5 of the Oklahoma Gas and Electric Muskogee plant; Units 1 and 2 of the Oklahoma Gas and Electric Sooner plant; and Units 3 and 4 of the American Electric Power/Public Service Company of Oklahoma Northeastern plant in accordance with 40 CFR 60.8 and 60.13(e), (f), and (h), and Appendix B of Part 60. The owner or operator shall comply with the quality assurance procedures for CEMS found in 40 CFR part 75. Compliance with the emission limits for SO_2 shall be determined by using data from a CEMS.

(2) Continuous emissions monitoring shall apply during all periods of operation of the coal burning equipment, including periods of startup, shutdown, and malfunction, except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments. Continuous monitoring systems for measuring SO_2 and diluent gas shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Hourly averages shall be computed using at least one data point in each fifteen minute quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant in an hour) if data are unavailable as a result of performance of calibration, quality

assurance, preventive maintenance activities, or backups of data from data acquisition and handling system, and recertification events. When valid SO_2 pounds per hour, or SO_2 pounds per million Btu emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, or zero and span adjustments, emission data must be obtained by using other monitoring systems approved by the EPA to provide emission data for a minimum of 18 hours in each 24 hour period and at least 22 out of 30 successive boiler operating days.

(f) *Reporting and Recordkeeping Requirements*. Unless otherwise stated all requests, reports, submittals, notifications, and other communications to the Regional Administrator required by this section shall be submitted, unless instructed otherwise, to the Director, Multimedia Planning and Permitting Division, U.S. Environmental Protection Agency, Region 6, to the attention of Mail Code: 6PD, at 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733. For each unit subject to the emissions limitation in this section and upon completion of the installation of CEMS as required in this section, the owner or operator shall comply with the following requirements:

(1) For each emissions limit in this section, comply with the notification, reporting, and recordkeeping requirements for CEMS compliance monitoring in 40 CFR 60.7(c) and (d).

(2) For each day, provide the total SO_2 emitted that day by each emission unit. For any hours on any unit where data for hourly pounds or heat input is missing, identify the unit number and monitoring device that did not produce valid data that caused the missing hour.

(g) *Equipment Operations*. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the unit including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Regional Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the unit.

(h) *Enforcement*.

(1) Notwithstanding any other provision in this implementation plan, any credible evidence or information relevant as to whether the unit would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed, can be used to establish whether or not the owner or operator has violated or is in violation of any standard or applicable emission limit in the plan.

(2) Emissions in excess of the level of the applicable emission limit or requirement that occur due to a malfunction shall constitute a violation of the applicable emission limit.

4. Section 52.1928 is added to read as follows:

§ 52.1928 Visibility protection.

(a) The following portions of the Oklahoma Regional Haze (RH) State Implementation Plan submitted on February 19, 2010 are disapproved:

(1) The SO_2 BART determinations for Units 4 and 5 of the Oklahoma Gas and Electric (OG&E) Muskogee plant; Units 1 and 2 of the OG&E Sooner plant; and Units 3 and 4 of the American Electric Power/Public Service Company of Oklahoma (AEP/PSO) Northeastern plant;

(2) The long-term strategy for regional haze;

(3) "Greater Reasonable Progress Alternative Determination" (section VI.E), and

(4) Separate executed agreements between ODEQ and OG&E, and ODEQ and AEP/PSO entitled ''OG&E Regional Haze Agreement, Case No. 10–024, and ''PSO Regional Haze Agreement, Case No. 10–025,'' housed within Appendix 6–5 of the RH SIP.

(b) The portion of the State Implementation Plan pertaining to adequate provisions to prohibit emissions from interfering with measures required in another state to protect visibility, submitted on May 10, 2007 and supplemented on December 10, 2007 is disapproved.

(c) The SO_2 BART requirements for Units 4 and 5 of the Oklahoma Gas and Electric (OG&E) Muskogee plant; Units 1 and 2 of the OG&E Sooner plant; and Units 3 and 4 of the American Electric Power/Public Service Company of Oklahoma (AEP/PSO) Northeastern plant, the deficiencies in the long-term strategy for regional haze, and the requirement for a plan to contain adequate provisions to prohibit emissions from interfering with measures required in another state to protect visibility are satisfied by § 52.1923.