6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R07-OAR-2012-0150, FRL-9638-1]

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

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing a limited approval of a revision to the Iowa State Implementation Plan (SIP) submitted by the State of Iowa on March 25, 2008, that addresses regional haze for the first implementation period. This revision addresses the requirements of the Clean Air Act (CAA or "Act") and the EPA's rules that require States to prevent any future and remedy any existing anthropogenic impairment of visibility in mandatory Class I areas caused by emissions of air pollutants from numerous sources located over a wide geographic area (also referred to as the "regional haze program"). States are required to assure reasonable progress toward the national goal of achieving natural visibility conditions in Class I areas. EPA is proposing a limited approval of this SIP revision to implement the regional haze requirements for Iowa on the basis that the revision, as a whole, strengthens the Iowa SIP. In a separate

action, EPA previously proposed a limited disapproval of the Iowa regional haze SIP because of deficiencies in the State's regional haze SIP arising from the remand by the U.S. Court of Appeals for the District of Columbia (D.C. Circuit) to EPA of the Clean Air Interstate Rule (CAIR). Therefore, we are not taking action in this notice to address the State's reliance on CAIR to meet certain regional haze requirements.

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

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R07-OAR-2012-0150, by one of the following methods:

1. Federal eRulemaking portal: http://www.regulations.gov. Follow the on-line instructions for submitting comments.

2. Email: wolfersberger.chris@epa.gov.

3. Fax: (913) 551-7864 (please alert the individual listed in the **FOR FURTHER INFORMATION CONTACT** if you are faxing comments).

4. Mail: Air Planning and Development Branch, U.S. Environmental Protection Agency, Region 7, 901 N 5th Street, Kansas City, Kansas 66101; attention: Chrissy Wolfersberger.

5. Hand Delivery or Courier: Air Planning and Development Branch, U.S. Environmental Protection Agency, Region 7, 901 N. 5th Street, Kansas City, Kansas 66101; attention Chrissy Wolfersberger. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional

Office's official hours of business are Monday through Friday, 8:00 a.m. to 5:00 p.m., excluding Federal holidays. Special arrangements should be made for deliveries of boxed information.

INSTRUCTIONS: Direct your comments to Docket ID No.: EPA-R07-OAR-2012-0150. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at http://www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit through www.regulations.gov or e-mail, information that you consider to be CBI or otherwise protected. The http://www.regulations.gov web site is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to EPA, without going through http://www.regulations.gov, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification,

EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about the EPA's public docket visit the EPA Docket Center homepage at http://www.epa.gov/epahome/dockets.htm.

Docket: All documents in the electronic docket are listed in the http://www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at http://www.regulations.gov or in hard copy at the Air Planning and Development Branch, EPA Region 7 Office, 901 N 5th Street, Kansas City, Kansas 66101. EPA requests that if at all possible, you contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. You may view the hard copy of the docket Monday through Friday, 8 a.m. to 5 p.m. excluding Federal holidays.

FOR FURTHER INFORMATION CONTACT: Ms. Chrissy Wolfersberger at 901 N 5th Street, Kansas City, Kansas 66101; by telephone at (913) 551-7864; or by email at wolfersberger.chris@epa.gov.

SUPPLEMENTARY INFORMATION: Throughout this document, wherever "we," "us," or "our" is used, we mean the EPA.

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I. What Action is EPA Proposing?

EPA is proposing a limited approval of Iowa's March 25, 2008, SIP revision addressing regional haze under CAA sections 301(a) and 110(k)(6) because the revision as a whole strengthens the Iowa SIP.[1] This proposed rulemaking and the accompanying Technical Support Document (TSD) explain the basis for EPA's proposed limited approval action.[2]

In a separate action, EPA has proposed a limited disapproval of the Iowa regional haze SIP because of deficiencies in the State's regional haze SIP submittal arising from the State's reliance on CAIR to meet certain regional haze requirements. 76 FR 82219. We are not proposing to take action in today's rulemaking on issues associated with Iowa's reliance on CAIR in its regional haze SIP. Comments on our proposed limited disapproval of Iowa's regional haze SIP may be directed to the docket for that rulemaking, Docket ID No. EPA-HQ-OAR-2011-0729.

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[1] Under CAA sections 301(a) and 110(k)(6) and the EPA's long-standing guidance, a limited approval results in approval of the entire SIP submittal, even of those parts that are deficient, and prevent the EPA from granting a full approval of the SIP revision. Processing of State Implementation Plan (SIP) Revisions, EPA Memorandum from John Calcagni, Director, Air Quality Management Division, OAQPS, to Air Division Directors, EPA Regional Offices I-X, September 7, 1992, (1992 Calcagni Memorandum) located at http://www.epa.gov/ttn/caaa/t1/memoranda/siproc.pdf.

[2] EPA's TSD to this action, entitled, "*Technical Support Document for Iowa Regional Haze Submittal,*" is included in the public docket for this action.

II. What is the Background for EPA's Proposed Action?

A. The Regional Haze Problem

Regional haze is visibility impairment that is produced by a multitude of sources and activities which are located across a broad geographic area and emit fine particles ($PM_{2.5}$) (e.g., sulfates, nitrates, organic carbon, elemental carbon, and soil dust), and their precursors (e.g., SO_2, NO_x, and in some cases, ammonia (NH_3) and volatile organic compounds (VOC)). Fine particle precursors react in the atmosphere to form fine particulate matter which impairs visibility by scattering and absorbing light. Visibility impairment reduces the clarity, color, and visible distance that one can see. $PM_{2.5}$ can also cause serious health effects and mortality in humans and contributes to environmental effects such as acid deposition and eutrophication.

Data from the existing visibility monitoring network, the "Interagency Monitoring of Protected Visual Environments" (IMPROVE) monitoring network, show that visibility impairment caused by air pollution occurs virtually all the time at most national park and wilderness areas. The average visual range[3] in many Class I areas (i.e., national parks and memorial parks, wilderness areas, and international parks meeting certain size criteria) in the western United States is 100-150 kilometers, or

[3] Visual range is the greatest distance, in kilometers or miles, at which a dark object can be viewed against the sky.

about one-half to two-thirds of the visual range that would exist without anthropogenic air pollution. In most of the eastern Class I areas of the United States, the average visual range is less than 30 kilometers, or about one-fifth of the visual range that would exist under estimated natural conditions. 64 FR 35715 (July 1, 1999).

B. Requirements of the CAA and EPA's Regional Haze Rule (RHR)

In section 169A of the 1977 Amendments to the CAA, Congress set forth a program for protecting visibility in the nation's national parks and wilderness areas. This section of the CAA establishes as a national goal the "prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Federal Class I areas[4] in which impairment results from manmade air pollution." On December 2, 1980, EPA promulgated regulations to address visibility impairment in Class I areas that is "reasonably attributable" to a single source or small group of sources, i.e., "reasonably attributable visibility impairment" (45 FR 80084). These regulations represented the

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

first phase in addressing visibility impairment; EPA deferred action on regional haze that emanates from a variety of sources until monitoring, modeling and scientific knowledge about the relationships between pollutants and visibility impairment were improved.

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

C. Roles of Agencies in Addressing Regional Haze

Successful implementation of the regional haze program will require long-term regional coordination among States, tribal governments and various Federal agencies. As noted above, pollution affecting the air quality in Class I areas can be transported over long distances, even hundreds of kilometers. Therefore, to effectively address the problem of visibility impairment in Class I areas, States need to develop strategies in coordination with one another, taking into account the effect of emissions from one jurisdiction on the air quality in another.

Because the pollutants that lead to regional haze can originate from sources located across broad geographic areas, the EPA has encouraged the States and tribes across the United States to address visibility impairment from a regional perspective. Five regional planning organizations (RPOs) were developed to address regional haze and related issues. The RPOs first evaluated technical information to better understand how their States and tribes impact Class I areas across the country, and then pursued the development of regional strategies to reduce emissions of PM and other pollutants leading to regional haze.

III. What Are the Requirements for Regional Haze SIPs?

A. The CAA and the RHR

Regional haze SIPs must assure reasonable progress towards the national goal of achieving natural visibility conditions in Class I areas. Section 169A of the CAA and the EPA's implementing regulations require States to establish long-term strategies for making reasonable progress toward meeting this goal. Implementation plans must also give specific attention to certain stationary sources that were in existence on August 7, 1977, but were not in operation before August 7, 1962, and require these sources, where appropriate, to install BART controls for the purpose of eliminating or reducing visibility impairment. The specific regional haze SIP requirements are discussed in further detail below.

B. Determination of Baseline, Natural, and Current Visibility Conditions

The RHR establishes the deciview (dv)[5] as the principal metric or unit for expressing visibility. Visibility expressed in deciviews is determined by using air quality measurements to estimate light extinction and then transforming the value of light extinction using a logarithm function. The dv is a more useful measure for tracking progress in improving visibility

[5] A deciview is defined in 40 CFR §51.301 as "a haze index derived from calculated light extinction, such that uniform changes in haziness correspond to uniform incremental changes in perception across the entire range of conditions, from pristine to highly impaired."

than light extinction itself because each dv change is an equal incremental change in visibility perceived by the human eye. Most people can detect a change in visibility at one dv.[6]

The dv is used in expressing RPGs (which are interim visibility goals towards meeting the national visibility goal), defining baseline, current, and natural conditions, and tracking changes in visibility. The regional haze SIPs must contain measures that ensure "reasonable progress" toward the national goal of preventing and remedying visibility impairment in Class I areas caused by anthropogenic air pollution by reducing anthropogenic emissions that cause regional haze. The national goal is a return to natural conditions, i.e., anthropogenic sources of air pollution would no longer impair visibility in Class I areas.

To track changes in visibility over time at each of the 156 Class I areas covered by the visibility program (40 CFR 81.401-437), and as part of the process for determining reasonable progress, States must calculate the degree of existing visibility impairment at each Class I area at the time of each regional haze SIP submittal and periodically review progress every five years midway through each ten-year implementation period. To do this, the RHR requires States to determine the degree of impairment (in deciviews) for the average of the 20

[6] The preamble to the RHR provides additional details about the deciview. 64 FR 35714, 35725 (July 1, 1999).

percent least impaired ("best") and 20 percent most impaired ("worst") visibility days over a specified time period at each of their Class I areas. In addition, States must also develop an estimate of natural visibility conditions for the purpose of comparing progress toward the national goal. Natural visibility is determined by estimating the natural concentrations of pollutants that cause visibility impairment and then calculating total light extinction based on those estimates. EPA has provided guidance to States regarding how to calculate baseline, natural and current visibility conditions in documents titled, EPA's *Guidance for Estimating Natural Visibility conditions under the Regional Haze Rule*, September 2003, (EPA-454/B-03-005 located at http://www.epa.gov/ttncaaa1/t1/memoranda/rh_envcurhr_gd.pdf), (hereinafter referred to as "EPA's 2003 Natural Visibility Guidance"), and *Guidance for Tracking Progress Under the Regional Haze Rule* (EPA-454/B-03-004 September 2003 located at http://www.epa.gov/ttncaaa1/t1/memoranda/rh_tpurhr_gd.pdf)), (hereinafter referred to as "EPA's 2003 Tracking Progress Guidance").

For the first regional haze SIPs that were due by December 17, 2007, "baseline visibility conditions" were the starting points for assessing "current" visibility impairment. Baseline visibility conditions represent the degree of visibility

impairment for the 20 percent least impaired days and 20 percent most impaired days for each calendar year from 2000 to 2004. Using monitoring data for 2000 through 2004, States are required to calculate the average degree of visibility impairment for each Class I area, based on the average of annual values over the five-year period. The comparison of initial baseline visibility conditions to natural visibility conditions indicates the amount of improvement necessary to attain natural visibility, while the future comparison of baseline conditions to the then current conditions will indicate the amount of progress made. In general, the 2000 - 2004 baseline period is considered the time from which improvement in visibility is measured.

C. Determination of Reasonable Progress Goals (RPGs)

The vehicle for ensuring continuing progress towards achieving the natural visibility goal is the submission of a series of regional haze SIPs from the States that establish two RPGs (i.e., two distinct goals, one for the "best" and one for the "worst" days) for every Class I area for each (approximately) 10-year implementation period. The RHR does not mandate specific milestones or rates of progress, but instead calls for States to establish goals that provide for "reasonable progress" toward achieving natural (i.e., "background") visibility conditions. In setting RPGs, States must provide for

an improvement in visibility for the most impaired days over the (approximately) 10-year period of the SIP, and ensure no degradation in visibility for the least impaired days over the same period.

States have significant discretion in establishing RPGs, but are required to consider the following factors established in section 169A of the CAA and in the RHR at 40 CFR 51.308(d)(1)(i)(A): (1) the costs of compliance; (2) the time necessary for compliance; (3) the energy and non-air quality environmental impacts of compliance; and (4) the remaining useful life of any potentially affected sources. States must demonstrate in their SIPs how these factors are considered when selecting the RPGs for the best and worst days for each applicable Class I area. States have considerable flexibility in how they take these factors into consideration, as noted in the EPA's *Guidance for Setting Reasonable Progress Goals under the Regional Haze Program,* ("EPA's Reasonable Progress Guidance"), July 1, 2007, memorandum from William L. Wehrum, Acting Assistant Administrator for Air and Radiation, to the EPA Regional Administrators, EPA Regions 1-10 (pp.4-2, 5-1). In setting the RPGs, States must also consider the rate of progress needed to reach natural visibility conditions by 2064 (referred to as the "uniform rate of progress" or the "glidepath") and the emission reduction measures needed to achieve that rate of

progress over the ten-year period of the SIP. Uniform progress towards achievement of natural conditions by the year 2064 represents a rate of progress which States are to use for analytical comparison to the amount of progress they expect to achieve. In setting RPGs, each State with one or more Class I areas ("Class I State") must also consult with potentially "contributing States," i.e., other nearby States with emission sources that may be affecting visibility impairment at the Class I State's areas. *See* 40 CFR 51.308(d)(1)(iv).

D. Best Available Retrofit Technology (BART)

Section 169A of the CAA directs States to evaluate the use of retrofit controls at certain larger, often uncontrolled, older stationary sources in order to address visibility impacts from these sources. Specifically, section 169A(b)(2)(A) of the CAA requires States to revise their SIPs to contain such measures as may be necessary to make reasonable progress towards the natural visibility goal, including a requirement that certain categories of existing major stationary sources[7] built between 1962 and 1977 procure, install, and operate the "Best Available Retrofit Technology" as determined by the State. Under the RHR, States are directed to conduct BART determinations for such "BART-eligible" sources that may be anticipated to cause or contribute to any visibility impairment

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

in a Class I area. Rather than requiring source-specific BART controls, States also have the flexibility to adopt an emissions trading program or other alternative program as long as the alternative provides greater reasonable progress towards improving visibility than BART.

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

States must address all visibility-impairing pollutants emitted by a source in the BART determination process. The most significant visibility impairing pollutants are SO_2, NO_x, and PM. EPA has stated that States should use their best judgment in determining whether VOC or NH_3 compounds impair visibility in Class I areas.

Under the BART Guidelines, States may select an exemption threshold value for their BART modeling, below which a BART-eligible source would not be expected to cause or contribute to visibility impairment in any Class I area. The State must document this exemption threshold value in the SIP and must state the basis for its selection of that value. Any source with emissions that model above the threshold value would be subject to a BART determination review. The BART Guidelines acknowledge varying circumstances affecting different Class I areas. States should consider the number of emission sources affecting the Class I areas at issue and the magnitude of the individual sources' impacts. Any exemption threshold set by the State should not be higher than 0.5 dv.

In their SIPs, States must identify potential BART sources, described as "BART-eligible sources" in the RHR, and document their BART control determination analyses. In making BART determinations, section 169A(g)(2) of the CAA requires that States consider the following factors: (1) the costs of compliance, (2) the energy and non-air quality environmental impacts of compliance, (3) any existing pollution control technology in use at the source, (4) the remaining useful life of the source, and (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of

such technology. States are free to determine the weight and significance to be assigned to each factor.

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

As noted above, the RHR allows States to implement an alternative program in lieu of BART so long as the alternative program can be demonstrated to achieve greater reasonable progress toward the national visibility goal than would BART. Under regulations issued in 2005 revising the regional haze program, the EPA made just such a demonstration for CAIR. 70 FR 39104 (July 6, 2005). EPA's regulations provide that States participating in the CAIR cap-and trade program under 40 CFR Part 96 pursuant to the EPA-approved CAIR SIP or which remain subject to the CAIR Federal Implementation Plan (FIP) in 40 CFR Part 97 need not require affected BART-eligible EGUs to install,

operate, and maintain BART for emissions of SO_2 and NO_x. 40 CFR 51.308(e)(4). Because CAIR did not address direct emissions of PM, States were still required to conduct a BART analysis for PM emissions from EGUs subject to BART for that pollutant.

Challenges to CAIR, however, resulted in the remand of the rule to EPA. *See North Carolina* v. *EPA*, 550 F.3d 1176 (D.C. Cir. 2008). EPA issued a new rule in 2011 to address the interstate transport of NO_x and SO_2 in the eastern United States. *See* 76 FR 48208 (August 8, 2011) ("the Transport Rule," also known as the Cross-State Air Pollution Rule). On December 30, 2011, EPA proposed to find that the trading programs in the Transport Rule would achieve greater reasonable progress towards the national goal than would BART in the States in which the Transport Rule applies. 76 FR 82219. Based on this proposed finding, EPA also proposed to revise the RHR to allow States to substitute participation in the trading programs under the Transport Rule for source-specific BART. EPA has not taken final action on that rule. Also on December 30, 2011, the D.C. Circuit issued an order addressing the status of the Transport Rule and CAIR in response to motions filed by numerous parties seeking a stay of the Transport Rule pending judicial review. In that order, the D.C. Circuit stayed the Transport Rule pending the court's resolutions of the petitions for review of that rule in *EME Homer Generation, L.P. v. EPA* (No. 11-1302 and

consolidated cases). The court also indicated that EPA is expected to continue to administer the CAIR in the interim until the court rules on the petitions for review of the Transport Rule.

E. Long-Term Strategy (LTS)

Consistent with the requirement in section 169A(b) of the CAA that States include in their regional haze SIP a 10 to 15 year strategy for making reasonable progress, 40 CFR 51.308(d)(3) of the RHR requires that States include a LTS in their regional haze SIPs. The LTS is the compilation of all control measures a State will use during the implementation period of the specific SIP submittal to meet applicable RPGs. The LTS must include "enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals" for all Class I areas within, or affected by emissions from, the State. *See* 40 CFR 51.308(d)(3).

When a State's emissions are reasonably anticipated to cause or contribute to visibility impairment in a Class I area located in another State, the RHR requires the impacted State to coordinate with the contributing States in order to develop coordinated emissions management strategies. 40 CFR 51.308(d)(3)(i). In such cases, the contributing State must demonstrate that it has included, in its SIP, all measures necessary to obtain its share of the emission reductions needed

to meet the RPGs for the Class I area. The RPOs have provided forums for significant interstate consultation, but additional consultations between States may be required to sufficiently address interstate visibility issues. This is especially true where two States belong to different RPOs.

States should consider all types of anthropogenic sources of visibility impairment in developing their LTS, including stationary, minor, mobile, and area sources. At a minimum, States must describe how each of the following seven factors listed below are taken into account in developing their LTS: (1) emission reductions due to ongoing air pollution control programs, including measures to address RAVI; (2) measures to mitigate the impacts of construction activities; (3) emissions limitations and schedules for compliance to achieve the RPG; (4) source retirement and replacement schedules; (5) smoke management techniques for agricultural and forestry management purposes including plans as currently exist within the State for these purposes; (6) enforceability of emissions limitations and control measures; and (7) the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the LTS. 40 CFR 51.308(d)(3)(v).

F. Coordinating Regional Haze and Reasonably Attributable Visibility Impairment Long-Term Strategy

As part of the RHR, EPA revised 40 CFR 51.306(c), regarding the LTS for RAVI, to require that the RAVI plan must provide for a periodic review and SIP revision not less frequently than every three years until the date of submission of the State's first plan addressing regional haze visibility impairment in accordance with 40 CFR 51.308(b) and (c). The State must revise its plan to provide for review and revision of a coordinated LTS for addressing RAVI and regional haze on or before this date. The State must also submit the first such coordinated LTS with its first regional haze SIP. Future coordinated LTSs, and periodic progress reports evaluating progress toward RPGs, must be submitted consistent with the schedule for SIP submission and periodic progress reports set forth in 40 CFR 51.308(f) and 51.308(g), respectively. The periodic review of a State's LTS must be submitted to EPA as a SIP revision and report on both regional haze and RAVI impairment.

G. Monitoring Strategy and Other Implementation Plan Requirements

40 CFR 51.308(d)(4) includes the requirement for a monitoring strategy for measuring, characterizing, and reporting of regional haze visibility impairment that is representative of all mandatory Class I Federal areas within the State. The

strategy must be coordinated with the monitoring strategy required in 40 CFR 51.305 for RAVI. Compliance with this requirement may be met through "participation" in the IMPROVE network, i.e., review and use of monitoring data from the network. The monitoring strategy is due with the first regional haze SIP, and it must be reviewed every five years. The monitoring strategy must also provide for additional monitoring sites if the IMPROVE network is not sufficient to determine whether RPGs will be met.

The SIP must also provide for the following:

- Procedures for using monitoring data and other information in a State with mandatory Class I areas to determine the contribution of emissions from within the State to regional haze visibility impairment at Class I areas both within and outside the State;
- Procedures for using monitoring data and other information in a State with no mandatory Class I areas to determine the contribution of emissions from within the State to regional haze visibility impairment at Class I areas in other States;
- Reporting of all visibility monitoring data to the Administrator at least annually for each Class I area in the State, and where possible, in electronic format;

- Developing a statewide inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area. The inventory must include emissions for a baseline year, emissions for the most recent year for which data are available, and estimates of future projected emissions. A State must also make a commitment to update the inventory periodically; and
- Other elements, including reporting, recordkeeping, and other measures necessary to assess and report on visibility.

The RHR requires control strategies to cover an initial implementation period extending to the year 2018, with a comprehensive reassessment and revision of those strategies, as appropriate, every ten years thereafter. Periodic SIP revisions must meet the core requirements of 40 CFR 51.308(d) with the exception of BART. The requirement to evaluate sources for BART applies only to the first regional haze SIP. Facilities subject to BART must continue to comply with the BART provisions of 40 CFR 51.308(e), as noted above. Periodic SIP revisions will assure that the statutory requirement of reasonable progress will continue to be met.

H. Consultation with States and Federal Land Managers (FLMs)

The RHR requires that States consult with FLMs before adopting and submitting their SIPs. 40 CFR 51.308(i). States must provide FLMs an opportunity for consultation, in person and at least sixty days prior to holding any public hearing on the SIP. This consultation must include the opportunity for the FLMs to discuss their assessment of impairment of visibility in any Class I area and to offer recommendations on the development of the RPGs and on the development and implementation of strategies to address visibility impairment. Further, a State must include in its SIP a description of how it addressed any comments provided by the FLMs. Finally, a SIP must provide procedures for continuing consultation between the State and FLMs regarding the State's visibility protection program, including development and review of SIP revisions, five-year progress reports, and the implementation of other programs having the potential to contribute to impairment of visibility in Class I areas.

IV. What is EPA's Analysis of the State of Iowa's Submittal?

EPA believes that the State has met the requirements of the CAA sections 110(*l*) and 110(a)(2) which require that the State adopt a SIP after reasonable notice and public hearing. EPA also believes that the State has met the requirements of the

specific procedural requirements for SIP revisions promulgated at 40 CFR Part 51, subpart F. These requirements include publication of notices by prominent advertisement in the relevant geographic area of a public hearing on proposed revisions, at least a 30-day public comment period, and the opportunity for a public hearing, and that the State, in accordance with its laws, submit the revision to EPA for approval. Specific information on Iowa's rulemaking, regional haze SIP development and the public information process is included in Chapter 2, and Appendix 2.1, of the State of Iowa's regional haze SIP, which is included in the docket of this proposed rulemaking.

A. Affected Class I Areas

There are no Class I areas hosted by the State of Iowa, and no portion of land within the State of Iowa is within 300 kilometers (km) of a Class I area. However, States without Class I areas are still required to submit SIPs that address the apportionment of visibility impact from the emissions generated by sources within the State's borders at Class I areas hosted by other States.

The State of Iowa participated in the planning efforts of the CENRAP which is affiliated with the Central States Air Resource Agencies (CENSARA). This RPO includes nine States - Nebraska, Iowa, Oklahoma, Texas, Minnesota, Iowa, Missouri,

Arkansas, and Louisiana. CENRAP and its contractors provided air quality modeling to the States to help them determine whether sources located within the State can be reasonably expected to cause or contribute to visibility impairment in a Class I area. The modeling conducted relied on baseline year (2002) and future planning year (2018) emissions inventories that were prepared with participation from each of the CENRAP States.

The State of Iowa relied upon the regional modeling work performed by CENRAP for determining the impact that sources within the State might have on Class I areas in the region and beyond. The modeling was based on PM Source Apportionment Technology (PSAT) for the Comprehensive Air Quality Model with extensions (CAMx) photochemical model. A detailed description of the source apportionment methods utilized by CENRAP is available in Appendix 7.1 of the SIP.

The following Class I areas were evaluated for contribution by the State of Iowa:

- Boundary Waters Canoe Area, Minnesota (BOWA)
- Voyageurs National Park, Minnesota (VOYA)
- Seney Wilderness Area, Michigan (SENE)
- Isle Royale National Park, Michigan (ISLE)
- Hercules Glades Wilderness Area, Missouri (HEGL)

- Mingo Wilderness Area, Missouri (MING)
- Caney Creek Wilderness, Arkansas (CACR)
- Upper Buffalo Wilderness, Arkansas (UPBU)
- Badlands National Park, South Dakota (BADL)
- Wind Cave National Park, South Dakota (WICA)

BOWA, VOYA, SENE and ISLE are known as the Northern Midwest Class I areas. According to the CENRAP PSAT results, the combined effect of all Iowa emissions upon the total modeled visibility impairment at the four Northern Midwest Class I areas is approximately 4 to 5 percent in both 2002 and 2018. The data were calculated in accordance with the new IMPROVE equation and are representative of those days with the worst 20 percent visibility conditions.

Table 1: Percent contribution of Iowa, Minnesota, and Michigan to visibility impairment at the Northern Midwest Class I areas, 20 percent worst days

	Iowa		**Minnesota**		**Michigan**	
	2002	**2018**	**2002**	**2018**	**2002**	**2018**
Boundary Waters	3.7	3.9	25.6	28.5	2.3	2.7
Voyagers	3.8	4.0	29.1	30.4	1.4	1.6
Isle Royale	4.5	4.9	11.5	12.5	11.1	12.8
Seney	4.2	4.8	3.9	4.4	9.6	12.7

The PSAT results provided above are in terms of percentages of total visibility impairment. The State of Iowa found them useful for determining the proportion of the State's contribution in relation to the total modeled visibility impairment at a Class I area. However, characterizing visibility impairment using just percentages can fail to

identify the magnitude of the contribution. For example, Iowa's percent contributions increase between 2002 and 2018, but the actual light extinction values decrease between the same years.

Table 2: Iowa's absolute contribution to visibility impairment, Northern Midwest Class I areas				
	Worst 20 percent Days Modeled Extinction (Mm-1)			
	Iowa		Class I Area Total	
	2002	2018	2002	2018
Boundary Waters	2.39	2.08	64.87	53.44
Voyagers	2.60	1.97	56.45	48.84
Isle Royale	3.23	3.02	71.40	61.26
Seney	4.54	3.95	107.92	82.00

Iowa's contributions to visibility impairment, as calculated through light extinction using the new IMPROVE equation, are provided in Table 2. The total modeled visibility impairment for each Class I area are also shown in the table. Iowa emissions sources cumulatively contribute only 2.2 - 4.5 Mm-1 of the 56 - 107 Mm-1 total modeled visibility impairment at the Northern Midwest Class I areas in 2002. In tandem, Iowa's percentage and absolute contributions describe the impacts emissions sources in Iowa may have upon nearby Class I areas.

Another way to assess Iowa's contribution to visibility impairment is to use the dv metric. As shown by Table 3, modeling results show that visibility improvements resulting from the elimination of all Iowa sources yield impacts below 0.5 dv.

Table 3: Estimated 2018 level of visibility impairment in the absence of all Iowa emissions sources			
	2018 Worst 20% (dv)	**2018 Worst 20% Less Iowa's Contribution (dv)**	**Iowa's Visibility Impacts (dv)**
Boundary Waters	18.5	18.1	0.4
Voyagers	17.7	17.4	0.3
Isle Royale	19.6	19.2	0.4
Seney	22.2	21.8	0.4

The State determined that when considered collectively, the data in Tables 1, 2, and 3 show that Iowa sources were responsible for a minimal contribution to visibility impairment at the Northern Midwest Class I areas.

Iowa's contributions to the Arkansas and Missouri Class I areas (HEGL, UPBU, CACR, MING) in terms of percentage contribution to visibility extension were less than to the Northern Midwest Class I areas. PSAT analysis showed that Iowa sources contributed approximately 1.6-2.7 percent to the total visibility extinction on the 20 percent worst visibility days in 2018 at these Class I areas.

PSAT analysis showed that Iowa sources contributed approximately 1.6 percent to the total visibility extinction on the 20 percent worst visibility days in 2018 at the BADL and approximately 1.2 percent to the total visibility extinction on the 20 percent worst visibility days in 2018 at the Wind Cave National Park, an impact which Iowa determined to be insignificant.

EPA believes the State of Iowa adequately identified the Class I areas impacted by emissions from Iowa sources and the State adequately determined the apportionment of those pollutants from sources located within the State.

B. Determination of Baseline, Natural and Current Visibility Conditions

States that host Class I areas are required to estimate the baseline, natural and current visibility conditions of those Class I areas. As Iowa does not host a Class I area, it is not required to estimate these metrics.

C. Reasonable Progress Goals

States hosting Class I areas have established RPGs, and have made assessments regarding whether emission reductions are needed from sources in Iowa in order to meet their RPG. This consultation is described in Section IV. E of this rulemaking. EPA is proposing to determine that the State has met the requirement of 40 CFR 51.308(d)(3)(iii) of the RHR.

D. Long-Term Strategy

As discussed in greater detail in section IV. I. of this proposed rulemaking, the emissions inventory used in the State's regional haze technical analyses was developed by CENRAP. The 2018 emissions inventory was developed by projecting 2002 emissions and applying reductions expected from Federal and State regulations affecting the emissions of visibility-

impairing pollutants. The emissions inventory for Iowa projects changes to point, area and mobile source inventories by the end of the first implementation period resulting from population growth, industrial, energy and natural resources development, land management, and air pollution control.

There are many Federal and State control programs being implemented that the State of Iowa anticipates will reduce emissions between the end of the baseline period and 2018. Emission reductions from these control programs are included in the modeling analysis and are projected to achieve substantial visibility improvement by 2018 in the CENRAP and MRPO Class I areas. Iowa considered the minor and major new source review programs (NSR), nonattainment new source review programs (NNSR), prevention of significant deterioration permits (PSD), CAIR, the heavy duty highway diesel rule, the clean air non-road diesel rule, other on-road and non-road mobile source programs, operating permits, pertinent new source performance standards (NSPS), national emissions standards for hazardous air pollutants (NESHAP), associated maximum achievable control technology (MACT) standards, and Integrated Planning Model (IPM)[8] results in developing its long-term strategy.

In a separate notice proposing limited disapproval of the regional haze SIPs of a number of States, including Iowa, EPA

[8] http://www.epa.gov/airmarkets/progsregs/epa-ipm/index.html

noted that these States relied on the trading programs of CAIR to satisfy the BART requirement and the requirement for a LTS sufficient to achieve the State-adopted reasonable progress goals. (76 FR 82219, December 30, 2011). In that notice, we proposed a limited disapproval of Iowa's LTS insofar as it relied on CAIR. For that reason, we are not taking action on that aspect of the long-term strategy in this notice. Comments on that proposed determination may be directed to Docket ID No. EPA-HQ-OAR-2011-0729.

In order to mitigate the impact of construction activities, the State of Iowa's rule on fugitive dust (567 IAC 23.3(2)"c") states that reasonable precautions shall be taken to prevent the discharge of visible emissions of airborne dust beyond the lot line of the property from which the emissions originated. The State also requires minor NSR permits for aggregate processing plants, concrete batch plants, and asphalt plants. Portable aggregate, concrete, or asphalt plants must notify the Iowa Department of Natural Resources (IDNR) thirty days before transferring the equipment to a new location to allow for review of the emissions impacts on national ambient air quality standards (NAAQS). The IDNR would notify the portable plant if there are potential adverse impacts on the NAAQS. A more stringent emission standard and the installation of additional control equipment would be required if the relocation would

prevent the attainment or maintenance of the NAAQS. Iowa determined that no additional measures were needed to mitigate the impacts of construction activities for purposes of visibility improvement, and EPA agrees with this determination.

Iowa demonstrated that source retirement and replacement schedules were taken into account, to the extent possible, when developing inputs for the IPM that was used in the CENRAP modeling analysis.

Iowa does not have a smoke management program at this time. Iowa notes that the CENRAP PSAT modeling indicates that fires in Iowa do not significantly contribute to visibility impairment in Class I areas, and therefore believes that a smoke management program is not needed for purposes of visibility improvement at this time.

The State has determined, and the EPA agrees, that the implementation of the on the books and on the way controls mentioned above are the control measures necessary for the State to achieve its apportionment of emission reductions agreed upon through the consultation process (discussed in greater detail below and in Section IV.E of this proposed rulemaking) as required by 40 CFR 51.308(d)(3)(ii).

E. Consultation with Other States

Iowa participated with the central consultation group, a subset of the CENRAP. This group was coordinated by the States of Missouri and Arkansas. Other participants include Ohio, Indiana, Illinois, Oklahoma, Texas, Kentucky, Tennessee, FLMs, other RPOs, and tribes. In addition to participation in the CENRAP regional planning process, the SIP indicates that Iowa also participated in the Midwest Class I area consultation group, coordinated by the States of Minnesota and Michigan, which included participation from the States of Illinois, Indiana, Michigan, Ohio, and Wisconsin, as well as Tribal lands in the five States that are part of the Midwest Planning Organization (MRPO).

In a letter dated July 23, 2007,[9] the central consultation group determined that additional reductions beyond existing and proposed controls, through both State and Federal requirements, would not be necessary from the State of Iowa in order for the uniform rate of progress to be met at each of the Class I areas in the States of Missouri and Arkansas (HEGL, MING, CACR, and the UPBU). EPA believes that this satisfies the requirement for consultation between these States.

Iowa communicated directly with the State of South Dakota, via letters dated May 31, 2007, and June 18, 2007, regarding

[9] State consultation letters are provided in Appendix 10 of the SIP.

visibility impacts at Badlands and Wind Cave National Parks. The State of South Dakota asked the State of Iowa for any analysis that it conducted to determine impacts, if any, sources in Iowa may have on the South Dakota Class I areas. The State of Iowa responded that source PSAT analysis was available on the CENRAP website titled "PSAT Viz Tool 27-April 2007." Iowa explained the analysis showed that sources in the State of Iowa contributed approximately 1.6 percent to the total visibility extinction on the 20 percent worst visibility days in 2018 at Badlands and approximately 1.2 percent to the total visibility extinction on the 20 percent worst visibility days in 2018 at Wind Cave, which Iowa considered to be an insignificant contribution. The State of Iowa did not receive a response or request for additional information from the State of South Dakota. EPA believes that this satisfies the requirement for consultation between these two States.

The State of Iowa also communicated directly with the State of Oklahoma regarding potential visibility impacts of Iowa sources on the Wichita Mountains Wildlife Refuge. In a letter dated February 25, 2008, the State of Oklahoma invited States that had a projected contribution of at least 1 Mm-1 in 2018 visibility impact at Wichita Mountains to participate in its consultation process. The letter goes on to determine that, after evaluation, in the 2018 modeling projections for the 20

percent worst visibility days at Wichita Mountains, anthropogenic emissions from the sources in the State of Iowa were not reasonably anticipated to contribute to visibility impairment at Wichita Mountains and that the State of Oklahoma was not requesting that the State of Iowa consider additional emission reductions. EPA believes that this satisfies the requirement for consultation between these two States.

In a letter dated September 19, 2007, the State of Minnesota determined that the State of Iowa (among other States), was a significant contributor to visibility impairment at Voyageurs National Park and Boundary Waters Canoe Area Wilderness. Attachments provided with the letter indicated that the State of Minnesota utilized Lake Michigan Air Directors Consortium (LADCO) trajectory analysis and CENRAP PSAT analysis (for baseline years) to determine if a State contributed 5 percent or more to visibility impairment at the two Minnesota Class I areas. A contribution of 5 percent was considered by the State of Minnesota to be significant. The LADCO trajectory analysis estimated contributions from emissions from the State of Iowa to be approximately 7.4 percent at Boundary Waters and approximately 10.2 percent at Voyageurs. The CENRAP PSAT modeling estimated contributions from emissions from the State of Iowa to be approximately 3.5 percent at Boundary Waters and approximately 3.8 percent at Voyageurs.

In its letter, the State of Minnesota asked the State of Iowa to: "…evaluate further reductions of SO_2 from electric generating units (EGU) in order to reduce SO_2 emissions by 2018 to a rate that is more comparable to the emissions rate projected for 2018 for EGU sources in Minnesota, approximately 0.25 lbs/MMBtu." The State of Minnesota also asked the State of Iowa to make a commitment to review, by 2013, the potential emission reductions that could be gained from control of industrial, commercial, and institutional (ICI) boilers and other point sources (such as reciprocating engines and turbines). The State of Iowa responded to the State of Minnesota in a letter dated November 1, 2007, communicating that it would not commit to evaluate further reductions of SO_2 from EGUs because the State was participating in the CAIR and because the State of Iowa had concerns with the State of Minnesota's interpretations of the LADCO/Minnesota four-factor analysis for reasonable progress. The State of Minnesota relied upon information from its four-factor analysis as an appendix to its request letter. The State of Iowa considered the State of Minnesota's cost per deciview improvement figures, in a range of approximately $3 billion/dv to $3.3 billion/dv, to be unreasonable for SO_2 control beyond CAIR for EGUs in the State of Iowa. The State of Iowa also considered the State of Minnesota's dollar per deciview figures, in a range of

approximately $2.8 billion/dv to $3.4 billion/dv, to be unreasonable for control of ICIs. The State explained that a similar argument could be made for reciprocating engines and combustion engines.

The State of Iowa also questioned the State of Minnesota's use of the LADCO trajectory analysis to determine significance of emissions from surrounding States because the trajectory analysis was based upon theoretical air flow and did not account for chemical reactions in the atmosphere that is accounted for in the CENRAP PSAT modeling. Because the CENRAP PSAT modeling indicated that emissions from the State of Iowa contribute less than 5 percent to impairment at Minnesota Class I areas, the State of Iowa did not consider emissions from sources within its boundaries to be significant (considering the State of Minnesota's significance threshold of 5 percent).

Iowa determined that additional controls were unsupported at this first stage of the regional haze rule, because Minnesota did not request that controls be installed on specific sources; did not provide justification on how such controls would lead to visibility improvement at the Minnesota Class I areas; did not provide documentation or otherwise consult with Iowa regarding any specific visibility improvement at the Minnesota Class I areas which would result from controlling Iowa sources; and because of the cost and visibility issues mentioned above.

However on page 38 of the SIP, the State of Iowa does commit to continued consultation with Minnesota in the future on issues involving regional haze as requested and warranted. EPA believes that this satisfies the requirement for consultation between these two States.

The State of Michigan wrote the State of Iowa a letter, dated October 26, 2007, stating that it was not asking other States to reduce emissions for purposes of meeting the requirements of the RHR. EPA believes that this satisfies the requirement for consultation between these two States.

In summary, the State of Iowa consulted both directly and through the RPO process with the States on which Iowa sources may have an effect. EPA proposes to find that Iowa met the consultation requirements of 40 CFR 51.308 (d)(1)(iv) and has addressed in its plan all measures necessary to obtain its share of emission reductions impacting visibility in Class I areas. 51.308 (d)(3)(ii).

F. BART

In the BART determination process, States must address all significant visibility impairing pollutants. The most significant visibility impairing pollutants are SO_2, NO_x, and PM. As indicated by the BART Guidelines, a State should use its best judgment in determining whether VOCs, ammonia (NH_3) or ammonia

compounds impair visibility in particular Class I areas[10]. Iowa conducted a quantitative analysis of emissions inventory data to show that Iowa point source NH_3 and VOC emissions do not cause or contribute to any visibility impairment in any Class I area. This analysis is described in the TSD for this rulemaking, and EPA agrees with this conclusion.

i. BART-Eligible Sources

For an emission source to be identified as BART-eligible, the State used these criteria from the BART Guidelines: (1) one or more emissions units at the facility fit within one of the 26 categories listed in the BART Guidelines; (2) the emission unit was in existence on August 7, 1977 and began operation at some point on or after August 7, 1962; and (3) the limited potential emissions from all emission units identified in the previous two items were 250 tons or more per year of any of these visibility-impairing pollutants: SO_2, NO_x, or PM_{10}.

To identify the sources that met the criteria above, Iowa required sources to self identify as BART-eligible by rule (Iowa

[10] Appendix Y of 40 C.F.R. Part 51- States should exercise judgment in deciding whether the following pollutants impair visibility in an area :(4) Volatile organic compounds (VOC), and (5) Ammonia and ammonia compounds. A state should use its best judgment in deciding whether VOC or ammonia emissions from a source are likely to have an impact on visibility in an area. Certain types of VOC emissions, for example, are more likely to form secondary organic aerosols than others. Similarly, controlling ammonia emissions in some areas may not have a significant impact on visibility. A state need not provide a formal showing of an individual decision that a source of VOC or ammonia emissions is not subject to BART review. Because air quality modeling may not be feasible for individual sources of VOC or ammonia, a state should also exercise its judgment in assessing the degree of visibility impacts due to emissions of VOC and emissions of ammonia or ammonia compounds. A state should fully document the basis for judging that a VOC or ammonia source merits BART review, including its assessment of the source's contribution to visibility impairment.

Administrative Code 567-22.9 *Special Requirements for Visibility Protection*) on a form supplied by the State. The State reviewed all in-house permitting, Title V databases, and the submitted forms to determine if a source met the criteria explained above. This process is outlined in detail in Appendix 9 of the SIP. The twenty seven BART-eligible facilities identified are listed in Table 4. EPA proposes to find that the State appropriately identified the BART-eligible units in the State.

Table 4: Facilities with BART-eligible units in the State of Iowa

Source Category	Company Name	Facility Number	BART Emission Units
Fossil Fuel-fired Steam Electric Plant Individually Greater than 250 MMBtu/hour	Cedar Falls Utilities	07-02-005	Unit #7 (EU10, 1A)
	Central Iowa Power Cooperative (CIPCO) – Summit Lake Station	88-01-004	Combustion turbines (EU1, EU1G, EU2, EU2G)
	Central Iowa Power Cooperative (CIPCO) – Fair Station	70-08-003	Unit #2 (EU2 & EU 2G)
	City of Ames – Steam Electric Plant	85-01-006	Boiler #7 (EU2)
	Interstate Power and Light – Burlington	29-01-013	Main plant boiler
	Interstate Power and Light – Lansing	03-03-001	Boiler #4 Sixteen units total.
	Interstate Power and Light – ML Kapp	23-01-014	Boiler #2. Six units total.
	Interstate Power and Light – Prairie Creek	57-01-042	Boiler #4. Fourteen units total.
	MidAmerican Energy Company – Council Bluffs	78-01-026	Boiler #3 (EU003)
	MidAmerican Energy Company – Neal North	97-04-010	Boiler #1-3 (EU001-EU003)
	MidAmerican Energy Company – Neal South	97-04-011	Boiler #4 (EU003)
	Muscatine Power and Water	70-01-011	Boiler #8
	Pella Municipal Power Plant	63-02-005	Boilers #6-8
Chemical Process Plant	Equistar Chemicals	23-01-004	301 emission units
	Koch Nitrogen Company	94-01-005	Ammonia vapor flares and primary reformer/auxiliary boiler. 8 units total.
	Monsanto Company Muscatine	70-01-008	Boilers #5-7. 57

			emission units total.
	Terra Nitrogen Port Neal Comp	97-01-030	Boiler B & auxiliary boiler
Petroleum Storage and Transfer Units with a Total Storage	BP - Bettendorf Terminal	82-02-024	Truck loading
	BP - Des Moines Terminal	77-01-158	Truck loading
Portland Cement Plant	Holcim (US) Inc.	17-01-009	109 emission units
Fossil Fuel-fired Boiler	ADM	23-01-006	#7 & 8 boilers. These boilers will permanently shut down by 9/13/08.
Iron and Steel Mills	Bloomfield Foundry, Inc	26-01-001	18 emission units
	Griffin Pipe Products Co.	78-01-012	10 emission units
	John Deere Foundry Waterloo	07-01-010	37 emission units
	Keokuk Steel Casings, A Matrix Metals Company LLC	56-01-025	67 emission units
	The Dexter Company	51-01-005	Tumblers 5 & 6
Secondary Metal Production	Alcoa, Inc.	82-01-002	Hot line mill. 87 emissions units total.

ii. BART-Subject Sources

Of the twenty seven BART-eligible facilities, thirteen are fossil-fuel fired EGUs, and as such, are subject to CAIR for NO_x and SO_2. As noted in EPA's separate notice proposing revisions to the regional haze rule (76 FR 82219, December 30, 2011) a number of States, including Iowa, relied on CAIR to satisfy the BART requirements for SO_2 and NO_X, in accordance with 40 CFR 51.308(e)(4). Prior to the CAIR remand, the State's reliance on CAIR to satisfy BART for NO_X and SO_2 for affected CAIR EGUs was fully approvable and in accordance with 40 CFR 51.308(e)(4). As explained above, we are not proposing to take action in today's rulemaking on issues associated with Iowa's reliance on CAIR in its regional haze SIP, including BART for SO_2 and NO_x for EGUs.

In a separate action, EPA has previously proposed a limited disapproval of Iowa's regional haze SIP because of deficiencies in the State's regional haze SIP submittal arising from the remand by the U.S. Court of Appeals for the District of Columbia (D.C. Circuit) to EPA of CAIR. 76 FR 82219. Comments on that proposed determination may be directed to Docket ID No. EPA-HQ-OAR-2011-0729. The PM BART evaluation for these sources is described in section V.F.2 below.

1. Non-EGUs

Iowa used three screening approaches to determine if the remaining fourteen non-EGU sources identified in table 4 were subject to BART:

- Q/d ("Q" being allowable emissions, in tons per year, and "d" representing the distance in km to the nearest Class I area, multiplied by a prescribed constant);[11]
- a variety of assessments using CAMx photochemical model (a regional scale model); and
- an emissions inventory analysis.

[11] The method, originally developed by the North Carolina Department of Environment and Natural Resources, is a tool to eliminate distant, insignificant emission sources from ambient assessments submitted under the Prevention of Significant Deterioration (PSD) program. The Q/d method determines a source to be insignificant if the allowable emissions in tons per year (Q) divided by a constant times the distance in kilometers (d) is greater than a value of 1. For example, North Carolina uses a constant of 20, which was determined empirically. Therefore, a source could be considered insignificant if its emissions divided by 20 times its distance, in km, from the nearest Class I area is less than 1. For this application, for determining exemption from BART, the combined emissions of $S0_2$, NO_x, and $PM_{2.5}$ of a BART-eligible unit could be divided by 20 times the distance to the nearest Class I area. If that quotient is less than 1, the source would not be subject to BART. If a source is not found to be exempt under this approach, the CALPUFF screening analysis could still be used for an exemption determination. Page 25196 of 69 FR 25183.

The RHR established thresholds defining the terms "cause" and "contribute". A source is said to "cause" visibility impairment if its impact is equal to or greater than 1.0 dv at any Class I area. A source is said to "contribute" to visibility impairment if its impacts are equal to or greater than 0.5 dv at any Class I area. Although the RHR affords States the opportunity to adopt a more stringent deminimis threshold, the State of Iowa chose not to do so. However, for its three step BART-subject screening analyses, the State did utilize a threshold that considered the number of days a source's impact was equal to or greater than 0.5 dv. The State chose seven days for this threshold[12]. The State's "Variegated Protocol in Support of Best Available Retrofit Technology Determinations - May 2006" explains that if the State were to find no maximum delta-deciview (ddv) values greater than 0.5 dv from any of the three screening methods, it would provide a statewide exemption of the BART sources assessed in the given scenario. Should initial cumulative modeling quantify ddv impacts exceeding 0.5 dv, the State would refine its analyses. For each BART eligible source, information regarding Q/d analyses, CALPUFF model plant evaluation, and CAMx results were assembled and utilized in a weight-of-evidence approach in the final subject-to-BART determination. If a unit was not clearly

[12] This is discussed on pages 3 and 11 of the State's "Variegated Protocol in Support of Best Available Retrofit Technology Determinations".

identifiable as either BART-subject or exempt from the BART determination process, the State provided a case-by-case discussion.

Table 5 lists each of the fourteen non-EGU BART-eligible sources analyzed for Q/d estimates, where "Q" is the sum of NO_x, SO_2 and PM_{10} emissions ($PM_{2.5}$ direct emission estimates were not available at the time of the calculations were performed by the State) and "d" is the distance between the source and the nearest Class I area in km. The Q/d estimates were completed using both actual and potential emissions and were multiplied by three different constants (20, 10, and 5). Iowa used a 1.0 threshold as its Q/d screening threshold. Note that potential emissions include only BART-eligible units while actual emissions represent facility wide totals, thus in certain cases actual emissions may exceed potentials.

Based on the six Q/d calculations the State categorized each of the fourteen non-EGU BART-eligible sources into three categories: 1) those sources that clearly exceed the 1.0 threshold, 2) sources well below the 1.0 threshold and 3) those sources with mixed results. Table 5 shows that only ADM-Clinton and Holcim, Inc. clearly exceed the 1.0 threshold in nearly each of the six Q/d calculations.

Table 5: Nearest Class I area & Q/d values for non-EGU BART-eligible sources														
Facility Name	**Nearest Class I**	**Distance (km)**	**BART Units Potential Emissions (tpy)**						**Facility Wide Actual Emissions (tpy)**					
			SO_2	NO_x	PM_{10}	Q/20d	Q/10d	Q/5d	SO_2	NO_x	PM_{10}	Q/20d	Q/10d	Q/5d
Equistar Chemical	MING	531.2	3,883	3,433	258	0.71	1.43	2.85	1	728	52	0.07	0.15	0.29
Koch Nitrogen Company	BOWA	615.4	40	1,399	23	0.12	0.24	0.48	0	442	20	0.04	0.08	0.15
Monsanto-Muscatine	MING	486.8	430	168	81	0.07	0.14	0.28	465	192	8	0.07	0.14	0.27
Terra Nitrogen-Port Neal	BADL	487.6	1	916	325	0.13	0.25	0.51	1	461	33	0.05	0.10	0.20
BP-Bettendorf	MING	499.9	0	0	0	0.00	0.00	0.00	0	0	0	0.00	0.00	0.00
BP-Des Moines	HEGL	547.0	0	0	0	0.00	0.00	0.00	0	0	0	0.00	0.00	0.00
Holcim, Inc.	BOWA	527.0	28,715	4,738	1,000	3.27	6.54	13.07	3,826	2,813	190	0.65	1.30	2.59
ADM-Clinton	MING	531.9	6,051	2,117	507	0.82	1.63	3.26	6,479	5,003	1,272	1.20	2.40	4.80
Bloomfield Foundry, Inc.	HEGL	448.8	136	68	605	0.09	0.18	0.36	1	0	22	0.00	0.01	0.01
Griffin Pipe Products	HEGL	563.6	190	235	211	0.06	0.11	0.23	2	88	111	0.02	0.04	0.07
John Deere Foundry-Waterloo	BOWA	588.8	0	0	285	0.02	0.05	0.10	9	21	99	0.01	0.02	0.04
Keokuk Steel Casing	MING	392.0	11	72	554	0.08	0.16	0.32	4	9	67	0.01	0.02	0.04
The Dexter Company	MING	468.9	0	0	541	0.06	0.12	0.23	29	3	112	0.02	0.03	0.06
Alcoa, Inc.	MING	501.8	15	400	1,092	0.15	0.30	0.60	2	137	209	0.03	0.07	0.14

A majority of the non-EGU facilities were well below the 1.0 screening threshold in all six Q/d tests. Eleven facilities, listed in table 6, yield Q/d values well below 1.0 at even the most stringent potential to emit Q/5d evaluation. The State subsequently determined that these sources were unlikely to be subject to BART. Iowa indicates, on page 13 of

Appendix 9 to the SIP, that this conclusion is further supported through evaluation of the Q/d values using facility-wide actual emissions. The actual emission Q/5d values average 0.09, with the upper limit at Monsanto Company-Muscatine of only 0.27. The State determined that these low values suggested any emission reductions would be insignificant at the nearest Class I area to the source.

Table 6: Non-EGU BART-eligible facilities significantly below all Q/d screening tests
Koch Nitrogen Company
Monsanto- Muscatine
Terra Nitrogen-Port Neal
BP-Bettendorf
BP-Des Moines
Bloomfield Foundry, Inc.
Griffin Pipe Products
John Deere Foundry-Waterloo
Keokuk Steel Casing
The Dexter Company
Alcoa, Inc.

Equistar Chemical is the only facility listed in Table 5 above where the results are not clear cut. Considering potential emissions, the Q/20d value is 0.71 with Q/10d and Q/5d exceeding 1.0. Actual emissions reveal that the most conservative value, Q/5d, remains well below 1.0 at 0.29. Equistar Chemical reported facility wide SO_2 emissions in 2002 at one tpy, with NO_x emissions of 728 tpy. As shown in Table 5, the nearest Class I area receptor is located at Mingo, at a distance of approximately 531 km. The transport distance in combination with low actual emissions produced the low Q/d value for

Equistar Chemical. Under these circumstances, Equistar Chemical is unlikely to be subject to BART. However, the State considered results from additional analyses, described below, before making any BART exemptions based solely on Q/d calculations.

The BART guidelines indicate that when determining if a source is BART-subject, CALPUFF, or other appropriate models, can be used to determine if an individual source is anticipated to cause or contribute to impairment of visibility in Class I areas[13]. The State explains in Appendix 9 to the SIP, and in its Variegated Protocol, that because each BART-eligible unit located within the State was an average of 516 km (with a minimum of 392 km) away from the nearest Class I area, it experienced difficulties using the CALPUFF model to determine if a unit was BART-subject, due to the tendency of CALPUFF to over-predict single source contributions. The State did use CALPUFF as the modeling tool for its model plant approach described below, in the TSD for this rulemaking, and in section 5.2 of Appendix 9 to the SIP.

For the model plant analysis, the State utilized combined (SO_2 and NO_x) emission rates of 5,000 tpy and 3,000 tpy per

[13] CALPUFF is a multi-layer, multi-species non-steady-state puff dispersion model that simulates the effects of time- and space-varying meteorological conditions on pollution transport, transformation and removal. CALPUFF can be applied on scales of tens to hundreds of kilometers. It includes algorithms for subgrid scale effects (such as terrain impingement), as well as longer range effects (such as pollutant removal due to wet scavenging and dry deposition, chemical transformation, and visibility effects of particulate matter concentrations). http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#calpuff

source because of the distance from the sources to the Class I areas. The State chose to use the following Class I areas based on their distance from Iowa sources: BADL, BOWA, VOYA, MING, HEGL, ISLE and SENE. Natural background concentrations were extracted from the EPA's *Guidance for Estimating Natural Visibility Conditions under the Regional Haze Program*[14].

During the State's analyses, each model plant simulation required fourteen iterations: two natural background scenarios across seven Class I areas. Results for each Class I area assessment were tabulated and ranked individually. Both maximum and 98th percentile values were considered when determining the levels at which emissions may cause (dv impacts greater than or equal to 1.0) or contribute (dv impacts greater than or equal to 0.5) to visibility impairment.

The results of the analysis (given on page 28 and 29 of Appendix 9 to the SIP) showed that the model plant, with 5,000 tpy of NO_x and SO_2 combined (and 50 tpy of $PM_{2.5}$) did not yield any dv impacts greater than 0.5 dv at the 98th percentile as compared against annually averaged natural background conditions. In the years 2002 and 2003, a maximum of five days exceed the 0.5 dv impact threshold, occurring at the BADL, likely due to utilization of the cleaner Western natural

[14] http://www.epa.gov/ttn/oarpg/t1/memoranda/rh_envcurhr_gd.pdf

background conditions[15]. During 2004, six days exceed the 0.5 dv impact threshold. The remaining six Class I area evaluations yield counts less than or equal to five days with impacts greater than 0.5 dv. Considering individual daily maximum impacts, 2002 values remain near the 0.5 dv level; slightly higher maximum impacts occur in 2003. In 2004 maximum impacts were consistently above 1.0 dv. When compared against the 20 percent best natural background conditions, each year, for each site, had more than seven days with maximum impacts exceeding 0.5 dv. As expected, maximum individual daily impacts show a corresponding increase versus annually averaged natural background conditions.

The results of the model plant analysis with 3,000 tpy of NO_x and SO_2 combined (and 50 tpy of $PM_{2.5}$) showed that the 98th percentile is never exceeded, regardless of the natural background scenario. Additionally, at 3,000 tpy of NO_x and SO_2 emissions combined, maximum impacts for the years 2002 and 2003, as compared against annually averaged natural background conditions, do not exceed 0.5 dv. The year 2004 does produce impacts above 0.5 dv. Two days above 0.5 dv are modeled for the BADL, and one day above 0.5 dv are shown for the remaining Class

[15] Annual average natural background concentrations are not strictly Class I area specific. Alternatively, sites are assigned one of two datasets: Eastern or Western. Of the seven Class I areas examined within the Iowa domain, all are considered Eastern sites with the exception of the Badlands. Page 23 of Appendix 9 to the SIP.

I areas. The 20 percent best natural background conditions - maximum daily impacts remain below 0.5 dv for all but SENE in 2002. In 2003, impacts greater than 0.5 dv are found for each site, but occur on no more than two days. Again, emissions in 2004 result in the dv highest impacts, but the impacts do not exceed the 98th percentile.

Based upon these results, the State concluded that any BART-eligible source that emitted less than 3,000 tpy of combined NO_x, SO_2 and $PM_{2.5}$ would likely be exempt from being BART-subject. At the 3,000 tpy level, evaluation against the stringent 20 percent best natural background conditions yields no more than five days with impacts exceeding 0.5 dv. Utilizing the emissions data (provided in table 5), the State determined that eleven of the fourteen non-EGU BART-eligible sources would remain well below the 3,000 tpy combined potential to emit. These happen to be the same facilities already identified in table 6 as being below the Q/d screening thresholds.

As a final tool to help in the BART-subject screening process, the State utilized the CAMx regional modeling system to model cumulative impacts across all BART-eligible sources at Class I areas. As set forth in the BART guidelines, a State may consider exempting all its BART-eligible sources from BART by conducting analyses that show that all of the emissions from BART-eligible sources in the State, taken together, are not

reasonably anticipated to cause or contribute visibility impairment. To make such a showing, a State could use CALPUFF or another appropriate dispersion model to evaluate the impacts of individual sources on downwind Class I areas, aggregating those impacts to determine the collective contribution from all-BART eligible sources in the State. A State with a sufficiently large number of BART-eligible sources could also make such a showing using a photochemical grid model[16]. EPA determined that the option of allowing a State to demonstrate that the full group of BART-eligible sources in the State does not contribute to visibility impairment would, by default, satisfy an individual source contribution assessment. As previously discussed, the State had concerns with the use of CALPUFF, so it elected to use the photochemical model CAMx to model cumulative impacts of all BART-eligible sources across Class I areas.

Similar to the Q/d analysis, the State utilized a 0.5 dv impact as screening a threshold of the CAMx modeling results. For all cumulative CAMx modeling scenarios, the scenario design involved zeroing the actual point source emissions of BART-eligible sources on a facility-wide basis. In zeroing BART-eligible facility emissions, emphasis was placed upon the

[16] For regional haze applications, regional scale modeling typically involves use of a photochemical grid model that is capable of simulating aerosol chemistry, transport, and deposition of airborne pollutants, including particulate matter and ozone. Regional scale air quality models are generally applied for geographic scales ranging from a multistate to the continental scale. Because of the design and intended applications of grid models, they may not be appropriate for BART assessments, so States should consult with the appropriate EPA Regional Office prior to carrying out any such modeling.

elevated point source emissions. The BART-eligible source list included distinctions for CAIR versus non-CAIR units (in lieu of CAIR as BART). This analysis is described in detail in the TSD for this rulemaking and in appendix 9 of the SIP.

In summary, considering a 12 km grid, emissions from non-EGU BART-eligible sources and natural background conditions, the maximum impact modeled is 0.63 dv (BOWA) with a maximum of only two days above the 0.5 dv threshold (ISLE). Under the 20 percent best natural background conditions, the maximum impact increases to 0.93 dv (BOWA), and the maximum frequency of impacts greater than 0.5 dv is five days (ISLE). Because there were impacts greater than the 0.5 dv threshold, the State could not provide a blanket exemption for all non-EGU BART-eligible sources considering just the results of the CAMx modeling. The State did not consider these analyses to be definitive so it considered actual emissions of visibility impairing pollutants from the sources evaluated in the modeling. Because eleven of the non-EGU BART-eligible sources (the same eleven as previously identified in table 6) comprise approximately 11 percent (2,547 tpy of SO_2, NO_x and PM) of the total of actual emissions (22,911 tpy of SO_2, NO_x and PM) from all fourteen non-EGU BART-eligible sources, the State determined that these eleven sources were unlikely to play a significant role in the cumulative modeled visibility impacts.

Although Iowa did not strictly follow the guidelines for exempting a source, specifically with respect to modeling a BART-eligible source using maximum actual emissions, in this case EPA has determined that Iowa's alternative analysis should result in an acceptable conclusion to exempt these eleven sources for the following reasons. First, the State's analysis used both actual emissions on a facility-wide basis and potential emissions for the BART-eligible units. When looking at the actual emissions facility-wide, for many of the sources, it was clear that had the maximum actual emissions been modeled using CALPUFF, the results would indicate minimal visibility impacts. This was apparent when comparing the modeled plant analysis emission inputs with the actual emissions. In almost all cases the sum of the actual emissions of visibility impairing emissions were significantly less than those used in the model plant analysis. The same is also true when looking at the potential emissions for many of these sources. Given that most of these non-EGU units do not have continuous emission monitoring systems (CEMS) that can be used for an accurate calculation of actual maximum 24-hour emission rate, using both the actual annual emissions facility-wide and potential emissions for the BART-eligible units provides confidence that these sources can be excluded as BART sources. Second, the Q/d analysis Iowa used provided a good indication of those sources

where additional analysis might be warranted. Although we have not specifically relied on the Q/d analysis for our approval of BART exemptions, we do believe it was informative and the use of Q/5d is fairly conservative for this type of an analysis. We believe that the State reasonably demonstrated that the eleven non-EGU BART-eligible sources (listed above in table 6) are not BART-subject. The remaining discussion of this section will focus on the three remaining non-EGU BART–eligible facilities that were not exempted: Equistar Chemical, Holcim, and ADM-Clinton.

Equistar Chemical's potential and actual emissions are dominated by VOCs, and not SO_2, NO_x or PM. While potential emissions of SO_2 and NO_x exceed the 5,000 tpy model plant threshold, the actual emissions are far below the 3,000 tpy threshold – 729 tons per year of NO_x and SO_2 combined. As such, the State determined that Equistar Chemical would not contribute impacts exceeding 0.5 dv, and was therefore not BART-subject. EPA agrees with this determination.

Both Holcim and ADM-Clinton fail the Q/d and CALPUFF model plant analyses. Almost all Q/d metrics exceed the 1.0 significance level, while SO_2 and NO_x emissions (potentials and actual emissions) exceed both the 3,000 and 5,000 tpy scenarios examined with the CALPUFF model plant application. The State

decided to look at both ADM-Clinton and Holcim on a case-by-case basis.

As mentioned previously, the State found the uncertainties of using the CALPUFF modeling system for determining single source visibility impacts from sources far removed from Class I areas very challenging. The State decided to use an alternative process, scaling the cumulative modeling impacts according to emission rates. The State utilized the maximum dv impacts from the most relevant CAMx modeling scenario, at the most stringent 20 percent best natural background conditions, a value of 0.93 dv to scale actual SO_2, NO_x and PM emissions for both sources. The State zeroed out the actual SO_2, NO_x and PM emissions in the following scenario. Because Holcim's SO_2, NO_x and PM emissions account for 6,828 tpy of the 22,911 tpy total non-EGU BART-eligible sources' SO_2, NO_x and PM emissions, Holcim's proportional share would account for 30 percent of the emissions. If ADM-Clinton's SO_2, NO_x and PM emissions account for 12,755 tpy of the 22,911 tpy total non-EGU BART-eligible sources' SO_2, NO_x and PM emissions, ADM-Clinton would account for 56 percent of the emissions. The State then scaled the visibility impact attributable to Holcim and ADM-Clinton. If the maximum visibility impact from all non-EGU BART-eligible sources was figured to be 0.93 dv, and Holcim was found to contribute approximately 30 percent to that impairment, it could

be estimated that Holcim would contribute approximately 0.28 dv visibility impairment (below the 0.5 dv threshold). Using the same method, ADM-Clinton was found to contribute approximately 56 percent to the maximum visibility impairment, or approximately 0.52 dv, above the 0.5 dv threshold. The State found that this additional information supported a determination that Holcim did not cause or contribute to visibility impairment at any Class I area, and was not BART-subject, however, the same determination for ADM Clinton could not be made according to this analysis.

As described previously, from the three screening approaches the State used, ADM-Clinton could not be ruled out from contributing to visibility impairment at Class I areas. However, at the time the State drafted the SIP, ADM-Clinton was going through a PSD permitting activity to construct new boilers. In the permit for the new boilers (Permit 05-A-314), ADM-Clinton was required to shut down boilers 1-14 no later than 180 days after the startup of the new boilers.[17] This includes the two BART-eligible boilers, numbers 7 and 8. We have confirmed with the State that these boilers have indeed shut down. In the PSD permit for the new boilers that replaced boilers 7 and 8, the facility was required to install and operate a baghouse, selective non-catalytic reduction, and

[17] https://aqbweb.iowadnr.gov/data/23/2301006/05A314P.pdf

limestone injection flue gas desulfurization on the new boiler units (three coal burning and two natural gas; five in total). The construction permit limited the emissions of the replacement boiler units through an annual cap applicable across all five new units. SO_2 emissions are not to exceed 3,629 tpy and NO_x emissions are not to exceed 1,445 tpy. These limits represent best available control technology (BACT) emission rates as required under the PSD program.[18] Because the BART-eligible boilers were permanently shut down pursuant to an enforceable PSD permit, and the replacement boilers satisfy BACT, the State concluded that ADM-Clinton was not subject to BART. EPA agrees with this determination.

EPA believes the State's approach to the photochemical modeling analysis does not fully account for the non-linear aspects of photochemical modeling and does not fully acknowledge that modeled impacts will not necessarily be directly proportional to the modeled emissions. However, EPA believes it is unlikely that Holcim will have visibility impacts on a Class I area greater than 0.5 dv for the following reasons. First, all modeled sources, including Holcim, are located a significant distance from any Class I area, with Holcim being 527 km from the nearest Class I area. Second, the modeling inputs showed

[18] The applicable State permit numbers are 05-A-313-P, 05-A-314- P, 05-A-315-P for the coal-fired boilers, and 05-A-316-P, 05-A-317-P for the natural gas fired boilers.

that emissions from Holcim constituted only 30 percent of total emissions from the modeled sources. Third, the *maximum* modeled impacts from this group of sources at any Class I area using average natural background conditions is 0.64 dv with at most 2 days of impacts over 0.5 dv. Fourth, looking at all the maximum modeled impacts at all seven Class I areas shows an average maximum impact of 0.44 dv, indicating that no single source is likely the cause for the majority of impacts at any single Class I area. Finally, ADM-Clinton represents 56 percent of the visibility impairing emissions of the modeled sources and this source's BART eligible units have been permanently shut down, thus EPA anticipates impacts from the remaining group of sources would have less than a 0.5 dv impact. Based on these factors, EPA believes that State adequately demonstrated that Holcim does not cause or contribute to visibility impairment in any Class I areas, and therefore is not subject to BART.

2. EGU BART Evaluation for PM

As the State relied on CAIR to address NO_x and SO_2 emissions, only an evaluation for PM was conducted for BART-eligible EGUs. There is no PM presumptive emission rate for EGUs with a capacity of 750 MW or greater. The State again relied on its CALPUFF model plant analysis for analyzing EGU PM emissions. Model year 2004 was selected in order to generate maximum impacts (the State’s analysis showed that 2004 data

generated impacts that exceeded 2002 and 2003 data). Two scenarios were completed using emission rates of 10,000 and 5,000 tpy of PM, NO_x, or SO_2 emissions. The model plant configuration was modified to reflect idealized EGU stack parameters, obtained from the EPA's CALPUFF analysis in support of the June 2005 changes to the RHR. Graphical results are given on page 46 of Appendix 9 to the SIP.

No impacts above 0.5 dv were observed at any Class I area under annually averaged natural background conditions with PM emissions of 10,000 tpy. Under the 20 percent best natural background conditions no impacts exceeding the 98th percentile occur. Reducing the emissions to 5,000 tpy, no impacts above 0.5 dv were produced under annually averaged background conditions or 20 percent best natural background conditions. In terms of scale, Iowa's largest PM_{10} source (an EGU that is not BART-eligible) emits 3,174 tpy (based on a facility-wide value), approximately 36.5 percent below the emission rate which yielded no visibility impacts. Based upon these results the State concluded, and the EPA agrees, that PM emissions from BART-eligible EGUs in the State of Iowa would not cause or contribute to visibility impairment at any nearby Class I area, and are therefore not subject to BART for PM.

G. Coordinating Regional Haze and Reasonably Attributable Visibility Impairment (RAVI)

EPA's visibility regulations direct States to coordinate their RAVI LTS and monitoring provisions with those for regional haze, as explained in section III. F. of this action. Under EPA's RAVI regulations, the RAVI portion of a State SIP must address any integral vistas identified by FLMs pursuant to 40 CFR 51.304. An *integral vista* is defined in 40 CFR 51.301 as a "view perceived from within the mandatory Class I Federal area of a specific landmark or panorama located outside the boundary of the mandatory Class I Federal area." Visibility in any mandatory Class I Federal area includes any integral vista associated with that area. Iowa has no Class I areas, and FLMs did not identify any integral vistas affected by Iowa sources. Therefore, the Iowa regional haze SIP submittal is not required to address the two requirements regarding coordination of the regional haze SIP with the RAVI LTS and monitoring provisions.

H. Monitoring Strategy

Because it does not host a Class I area, Iowa is not required to develop a monitoring strategy for measuring, characterizing, and reporting regional haze impairment that is representative of Class I areas within the State. However, Iowa is required to establish procedures by which monitoring data and other information is used to determine the contribution of

emissions from within the State to regional haze impairment at Class I areas outside of the State.

There are two IMPROVE monitoring protocol sites (sites that are not managed directly by IMPROVE, but by the operating agency) which are operated in the State. One is located at Lake Viking State Park in southwestern Iowa, and the second is located at Lake Sugema Wildlife Management Area in southeastern Iowa. The monitors began operation in June 2002. Descriptions of these monitoring sites and methods for data validation can be found in Chapter 6 of the State's Regional Haze SIP. The State has provided a commitment in Chapter 6 of the SIP to maintain the IMPROVE protocol monitoring sites contingent upon continued national funding.

Data from IMPROVE protocol monitors is analyzed by a national laboratory (funded via an interagency agreement between the EPA and the National Park Service) and uploaded by the laboratory into two publicly available databases at http://vista.cira.colostate.edu/improve and http://vista.cira.colostate.edu/views/. Any supplemental monitoring data from additional monitoring equipment at each site is publicly available at http://www.epa.gov/ttn/airs/airsaqs.

EPA believes the State's commitments to utilize data from these sites, or any other EPA-approved monitoring network location, to characterize and model conditions within the State and to compare visibility conditions in the State to visibility impairment at Class I areas hosted by other States. EPA proposes that Iowa has satisfied the requirements of 40 CFR 51.308(d)(4).

I. Emissions Inventory

Iowa was required to develop a statewide emissions inventory of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area. This inventory must include baseline year emissions, emissions for the most recent year that data is available, and estimates of future year emissions. The State provided an inventory of emissions of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area: VOCs, NO_x, SO_2, $PM_{2.5}$, PM_{10} and ammonia (NH_3). As required, the inventory includes emissions for a baseline year (2002), the most recent year for which data are available, and estimates of future year (2018) projected emissions along with a commitment to update the inventory periodically.

The 2002 point source inventory was derived from the 2002 National Emission Inventory (NEI)[19]. All other source category emission inventories were developed by CENRAP and its contractors as part of the development of a baseline inventory for the 2002 modeling inventory[20]. A summary of the 2002 baseline emissions inventory can be found in Chapter 7 of the SIP. Methodologies for the development of the 2002 emissions inventories can be found in Appendix 7.1 of the SIP.

To estimate the 2018 future year emissions the State grew the 2002 emissions using the Economic Growth Analysis System (EGAS) 5, MOBILE 6 and NONROAD vehicle emissions software. The State also used the IPM to forecast EGU emissions.

As shown in table 7, the State made a modification to the estimated 2018 SO_2 emissions for the point source EGU source category. In tables 7 and 8, the 2002 and 2018 point source EGU SO_2 emissions are 135,833 and 160,733 tons per year (tpy), respectively. The State was concerned with the accuracy of the 2018 (160,733 tpy) value. CENRAP utilized the "RPO version 2.1.9" IPM (referred to as IPM v2.1.9) predictions to generate the 2018 BaseG scenario[21], in which total Iowa EGU SO_2 emissions were forecast to be approximately 147,305 tpy. During review of

[19] http://www.epa.gov/ttn/chief/net/2002inventory.html
[20] http://www.cenrap.org/html/projects.php
[21] The CENRAP modeling emissions inventory consists of several distinct datasets: the 2002 basecase for model performance evaluation, 2002 typical, 2018 basecase, and the 2018 control strategy scenario. The inventory was refined through several rounds of CENRAP workgroup review and revision, beginning with the initial BaseA version and culminating in the BaseG inventory.

the CENRAP BaseE2 modeling, errors were identified in the 2018 Iowa EGU emissions. Among the errors, certain EGU emissions were overestimated when a growth methodology was applied twice, once with EGAS and then again within IPM. Following error identification, corrections were submitted for inclusion in the BaseF (and subsequent BaseG) modeling scenarios. After the corrections, 2018 EGU SO_2 emissions totaled 151,354 tpy. Thus, the State believed the value of 160,733 tpy provided through the emissions inventory report developed by a CENRAP contractor to be inaccurate.[22] The State found that the corrected EGU SO_2 emissions estimate of 151,354 tpy for 2018 is conservative, given updated results from IPM version 3.0 (discussed in Chapter 11 of the SIP) and Iowa's participation in CAIR.

Table 7: 2002 Iowa emissions summary (tons per year)

	VOC	NO_x	PM 2.5	PM 10	NH3	SO_2
Ammonia	0	0	0	0	258,915	0
Area	106,712	6,782	11,540	12,182	6.560	3,184
Area Fire	1,120	138	4,681	4,893	0	160
Fugitive Dust	0	0	38,666	193,331	0	0
Off road	63,694	92,595	8,904	9,707	79	9,037
On road	87,392	120,621	1,747	2,373	3,064	3,200
Point EGU	1,075	81,761	4,527	9,424	0	135,833
Point Fire	545	33	594	700	48	35
Point NonEGU	41,184	35,812	7,651	17495	3,317	51,836
Road dust	0	0	19,525	127,882	0	0
Wildfire	5	29	218	224	0	8
Biogenic	408,291	25,732				
TOTAL	710,018	363,503	98,053	378,211	271,983	203,293

[22] The "Consolidation of Emissions Inventories"- Pechan Report No. 05.03.002/9500.003

Table 8: 2018 Iowa projected emissions summary (tons per year)						
	VOC	**NO_x**	**PM 2.5**	**PM 10**	**NH3**	**SO_2**
Ammonia	0	0	0	0	302,012	0
Area	127,849	7,476	10,677	11,510	13,304	3,224
Area Fire	1,120	138	4,681	4,893	0	160
Fugitive Dust	0	0	40,608	203,044	0	0
Off road	37,143	60,210	5,582	6,088	101	220
On road	36,404	33,975	708	708	4,225	400
Point EGU	1,802	65,629	9,578	11,232	713	151,354
Point Fire	547	33	596	702	49	36
Point NonEGU	56,714	40,964	10,151	21,737	5,763	42,862
Road dust	0	0	17,712	114,889	0	0
Wildfire	5	29	218	224	0	8
Biogenic	408,291	25,732				
TOTAL	669,875	234,186	100,511	375,027	326,167	198,264

EPA proposes that the 2002 and 2018 statewide emissions inventories and the State's method for developing the 2018 emissions inventory meets the requirements of 40 CFR 51.308(d)(4)(v) of the regional haze rule.

J. Reporting Requirements

EPA has reviewed and believes the State's reporting strategy meets the requirements of the regional haze rule. The State is required to maintain reporting, record keeping and other measures necessary to assess and report on visibility improvements. In communications with the EPA, Iowa asserts that by complying with the Air Emissions Reporting Rule, in addition to the State's commitment (page 56, Chapter 12 of the SIP) to complete the periodic review as required in 40 CFR 51.308(g), for which the most recent or most appropriate emissions data will be used, such as CEMS data, it has met the requirements of

40 CFR 51.308(d)(4)(v) and 40 CFR 51.308(d)(4)(vi) of the RHR. The EPA believes the State's methods of reporting and recording keeping of emissions meet the requirement of 40 CFR 51.308(d)(4)(vi) of the RHR.

K. Consultation with Federal Land Managers

The State of Iowa met the FLM consultation requirement by sending the draft SIP to the FLMs on November 26, 2007, and notifying the FLMs of the public hearing on January 30, 2008. 40 CFR 51.308(i)(3) requires States to provide a description of how they addressed any comments provided by the FLMs. Iowa has provided this in Appendix 2.1 of the SIP. EPA believes that Iowa adequately responded to the comments received from the FLMs and from EPA.

Regional haze SIPs must also provide procedures for continuing consultation between the State and FLMs on the implementation of 40 CFR 51.308, including development and review of SIP revisions and 5-year progress reports, and on the implementation of other programs having the potential to contribute to impairment of visibility in Class I areas. The State of Iowa has committed to continuing to coordinate and consult with the FLMs during the development of future progress reports and plan revisions, as well as during the implementation of programs having the potential to contribute to visibility impairment in Class I areas.

EPA proposes to find that the State of Iowa has satisfied the consultation requirements of 40 CFR 51.308 (i).

L. Periodic SIP Revisions and Five Year Progress Reports

Iowa acknowledged the requirement under 40 CFR 51.308 (f) to submit periodic progress reports and regional haze SIP revisions, with the first report due by July 31, 2018, and revisions due every ten years thereafter. Iowa has committed to meeting this requirement.

Iowa also acknowledged the requirement under 40 CFR 51.308 (g) to submit a progress report in the form of a SIP revision every five years following this initial SIP submittal. Iowa committed to submitting the required five year SIP revision, evaluating the progress made towards the RPGs for each mandatory Class I area which may be affected by emissions from Iowa sources. Iowa committed to addressing all the requirements of 40 CFR 51.308 (g), including a review of the changes in the emission inventory, a review of the periodic reporting requirements, and a determination of whether additional action is needed according to 40 CFR 51.308(h).

We propose to find that Iowa has satisfied the requirements to submit periodic SIP revisions and progress reports as required by 40 CFR 51.308(f)-(h).

V. Proposed Actions

We propose a limited approval of Iowa's March 25, 2008 SIP revision addressing regional haze. In a separate action, EPA has proposed a limited disapproval of the Iowa regional haze SIP because of deficiencies in the State's regional haze SIP submittal arising from the State's reliance on CAIR to meet certain regional haze requirements. 76 FR 82219. We are not proposing to take action in today's rulemaking on issues associated with Iowa's reliance on CAIR in its regional haze SIP.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866, Regulatory Planning and Review

The Office of Management and Budget (OMB) has exempted this regulatory action from Executive Order 12866, entitled "Regulatory Planning and Review."

B. Paperwork Reduction Act

Under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq., OMB must approve all "collections of information" by the EPA. The Act defines "collection of information" as a requirement for answers to * * * identical reporting or recordkeeping requirements imposed on ten or more persons * * *. 44 U.S.C. 3502(3)(A). The Paperwork Reduction Act does not apply to this action.

C. Regulatory Flexibility Act (RFA)

The RFA generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements 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 not-for-profit enterprises, and small governmental jurisdictions.

This rule will not have a significant impact on a substantial number of small entities because SIP approvals under section 110 and subchapter I, part D of the CAA do not create any new requirements but simply approve requirements that the State is already imposing. Therefore, because the Federal SIP approval does not create any new requirements, this action will not have a significant economic impact on a substantial number of small entities.

Moreover, due to the nature of the Federal-State relationship under the CAA, preparation of flexibility analysis would constitute Federal inquiry into the economic reasonableness of State action. The CAA forbids the EPA to base its actions concerning SIPs on such grounds. Union Electric Co., v. U.S. EPA, 427 U.S. 246, 255-66 (1976); 42 U.S.C. 7410(a)(2).

D. Unfunded Mandates Reform Act

Under sections 202 of the Unfunded Mandates Reform Act of 1995 ("Unfunded Mandates Act"), signed into law on March 22, 1995, the EPA must prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate; or to the private sector, of $100 million or more. Under section 205, the EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires the EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule.

EPA has determined that the approval action proposed does not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector. This Federal action proposes to approve pre-existing requirements under State or local law, and imposes no new requirements. Accordingly, no additional costs to State, local, or tribal governments, or to the private sector, result from this action.

E. Executive Order 13132, Federalism

Federalism (64 FR 43255, August 10, 1999) revokes and replaces Executive Orders 12612 (Federalism) and 12875 (Enhancing the Intergovernmental Partnership). Executive Order 13132 requires the EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that 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." Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

This rule 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, because it merely approves a State rule implementing a Federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the CAA. Thus, the requirements of section 6 of the Executive Order do not apply to this rule.

F. Executive Order 13175, Coordination with Indian Tribal Governments

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 9, 2000), requires the EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." This proposed rule does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments. Thus, Executive Order 13175 does not apply to this rule. EPA specifically solicits additional comment on this proposed rule from tribal officials.

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

Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997), applies to any rule that: (1) is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that the EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This rule is not subject to Executive Order 13045 because it does not involve decisions intended to mitigate environmental health or safety risks.

H. Executive Order 13211, Actions that Significantly Affect Energy Supply, Distribution, or Use

This rule is not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (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 of the National Technology Transfer and Advancement Act (NTTAA) of 1995 requires Federal agencies to evaluate existing technical standards when developing a new regulation. To comply with NTTAA, the EPA must consider and use "voluntary consensus standards" (VCS) if available and applicable when developing programs and policies unless doing so would be inconsistent with applicable law or otherwise impractical.

EPA believes that VCS are inapplicable to this action. Today's action does not require the public to perform activities conducive to the use of VCS.

List of Subjects in 40 CFR Part 52

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

AUTHORITY: 42 U.S.C. 7401 et seq.

Dated: February 15, 2012 Signed: Karl Brooks

Karl Brooks,
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