ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R05–OAR–2010–0954; EPA–R05–OAR–2010–0037; FRL–9773–1]

Approval and Promulgation of Air Quality Implementation Plans; States of Minnesota and Michigan; Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is finalizing a Federal Implementation Plan (FIP) to implement emission limits that represent Best Available Retrofit Technology (BART) for certain taconite ore processing facilities in Minnesota and Michigan. The Clean Air Act (CAA or the ''Act'') and the regional haze rule require implementation plans to contain BART emission limits for sources subject to BART in order to meet the national goal of preventing any future and remedying any existing impairment of visibility in mandatory class I Federal areas arising from manmade air pollution.

DATES: This final rule is effective on March 8, 2013.

ADDRESSES: EPA has established a docket for this action under Docket ID Nos. EPA–R05–OAR–2010–0954 and EPA–RO5–OAR–2010–0037. All documents are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov* or in hard copy at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. We recommend that you telephone Steven Rosenthal, Environmental Engineer, at (312) 886–6052 before visiting the Region 5 office.

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SUPPLEMENTARY INFORMATION: Throughout this document, wherever ''we,'' ''us,'' or ''our,'' is used, we mean the United States Environmental Protection Agency (EPA).

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I. Background Information

A. EPA's Regional Haze Rule and Best Available Retrofit Technology

The regional haze rule required states to submit State Implementation Plans (SIPs) to implement the rule's requirements by no later than December 17, 2007. Neither Minnesota nor Michigan submitted regional haze SIPs by the required date. The Act requires EPA to promulgate a FIP within two years after EPA finds that a state has failed to make a required SIP submission unless the state corrects the deficiency and EPA subsequently approves the SIP. On January 15, 2009, EPA formally found that both Minnesota and Michigan had failed to timely submit SIPs addressing the regional haze requirements. This finding triggered EPA's duty to either promulgate a regional haze FIP for Minnesota and Michigan or approve subsequently submitted regional haze SIPs.

Minnesota subsequently submitted to EPA a regional haze SIP on December 30, 2009, a draft supplement to the SIP on January 5, 2012, and a final supplement to the SIP on May 8, 2012. Michigan submitted to EPA a regional haze SIP on November 5, 2010. In previous rulemakings, EPA approved in part the states' regional haze SIPs for addressing most regional haze requirements. However, EPA deferred action on the states' BART determinations for taconite facilities in order to further evaluate the sufficiency of those determinations. On August 15, 2012, EPA proposed to disapprove in part the states' regional haze SIPs with regards to their BART determinations for taconite facilities, while simultaneously proposing to promulgate a FIP. In response to comments received related to the sufficiency of EPA's reasoning for proposing disapproval of the Michigan and Minnesota BART determinations, EPA is issuing a separate supplemental notice of proposed rulemaking to solicit additional comments on that issue. Nonetheless, despite the fact that EPA has not finalized its disapproval of the states' BART determinations, EPA has the continuing authority and obligation to promulgate a FIP based on its earlier finding that Minnesota and Michigan had failed to timely submit regional haze SIPs. EPA's duty to promulgate a FIP ends only when it has fully approved a state submission. EPA has determined that the FIP satisfies the requirements of the Act and the regional haze rule.

As described in greater detail in the proposal to this rulemaking (77 FR 49308, August 15, 2012), section 169A of the 1977 Amendments to the CAA created a program for protecting visibility in the nation's national parks and wilderness areas. 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 (45 FR 80084, December 2, 1980). In 1990, Congress added section 169B to the Act to address regional haze issues. Accordingly, EPA promulgated a rule to address regional haze on July 1, 1999 (64 FR 35714), which is codified at 40 CFR part 51, subpart P (''the regional haze rule''). On July 6, 2005, EPA published guidelines to assist states, or EPA when implementing a FIP, in determining which of their sources should be subject to the BART requirements and in determining appropriate emission limits for each applicable source (70 FR 39104), codified at 40 CFR part 51, appendix Y (''BART Guidelines'').

Among other things, section 169A of the Act and 40 CFR 51.308 of the regional haze rule require that states, or EPA when implementing a FIP, assure reasonable progress toward the national goal of achieving natural visibility conditions in Class I areas by submitting an implementation plan that contains emission limits representing BART for certain BART-eligible sources. 40 CFR 51.308(d) and (e). Pursuant to 40 CFR 51.308(e), BART must be determined based upon an analysis of the best

system of continuous emission control technology available and associated emission reductions achievable for each BART-eligible source that is subject to BART. In this analysis, the state, or EPA when implementing a FIP, must take into consideration the technology available, the costs of compliance, the energy and air quality environmental impacts of compliance, any pollution control equipment in use at the source, the remaining useful life of the source, and the degree of visibility improvement reasonably anticipated to result from the use of such technology. CAA section 169A(g)(2); 40 CFR 51.308(e)(1)(ii)(A).

The process of establishing BART emission limits consists of three steps. First, states or EPA identify those sources that meet the definition of ''BART-eligible source'' set forth at 40 CFR 51.301. Second, states or EPA determine whether such sources ''emit any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area,'' and is therefore ''subject to BART.'' Third, for each source subject to BART, states or EPA then identify the appropriate type and level of control for reducing emissions by conducting a five-step analysis: step 1: identify all available retrofit control technologies; step 2: eliminate technically infeasible options; step 3: evaluate control effectiveness of remaining control technologies; step 4: evaluate impacts and document the results; step 5: evaluate visibility impacts. See BART Guidelines.

The regional haze rule required all states to submit an implementation plan for regional haze meeting the requirements of 40 CFR 51.308(d) and (e) by no later than December 17, 2007. 40 CFR 51.308(b). Neither Minnesota nor Michigan submitted regional haze SIPs to EPA by the required date.

B. EPA's Legal Authority To Promulgate a FIP

Section 110 of the Act requires states to develop implementation plans with enforceable emission limitations and other control measures to meet the applicable requirements of the Act. A state submits its SIPs and SIP revisions to EPA for approval. Congress crafted the Act to provide for states to take the lead in developing SIPs, but balanced that decision by requiring EPA to review the plans to determine whether a SIP meets the requirements of the Act. EPA is required to determine whether the state's submittal meets the requirements of the Act based on information and data available at the time of EPA's review. See *Sierra Club* v. *EPA,* 671 F.3d 955 (9th Cir. 2012).

Pursuant to section 110(c)(1)(A) of the Act, if EPA finds that a state has failed to make a required SIP submittal or if EPA finds that a state's required submittal is incomplete, then EPA is required to promulgate a FIP to fill this regulatory gap. Section 110(c)(1)(A) of the Act requires EPA to promulgate a FIP within two years of its finding that a state failed to make a required SIP submission. Further, EPA has a continuing duty to promulgate a FIP even where EPA fails to promulgate a FIP within the required two-year period. EPA's duty to promulgate a FIP continues unless the state corrects the deficiency, and EPA approves the plan or revision before EPA promulgates the FIP.[1]

In this rulemaking action, EPA has the authority to promulgate a FIP addressing the BART determinations of certain taconite facilities in Minnesota and Michigan based upon the failure of both Minnesota and Michigan to timely submit regional haze SIPs. As discussed above, the regional haze rule required all states to submit a regional haze implementation plan by December 17, 2007. 40 CFR 51.308(b). Neither Minnesota nor Michigan submitted regional haze SIPs to EPA by the required date. Therefore, on January 15, 2009, EPA found that Michigan and Minnesota, as well as certain other states, had failed to submit SIPs addressing the regional haze requirements (74 FR 2392). Based upon that finding, pursuant to section 110(c)(1)(A) of the Act, EPA was under a continuing duty to promulgate FIPs for Minnesota and Michigan to address the regional haze requirements of the Act and the regional haze rule. This FIP is promulgated pursuant to the requirements of section 110(c)(1)(A) of the Act.

[1] It should be noted that in addition to the requirements of section 110(c)(1)(A) of the Act, section 110(c)(1)(B) of the Act requires EPA to promulgate a FIP where EPA has specifically disapproved a state's SIP submittal. Correspondingly, EPA has a continuing duty to promulgate the FIP unless a state corrects the deficiency and EPA approves the plan or revision before EPA promulgates the FIP. Many of the commenters to the proposed FIP assumed that the statutory basis for EPA's authority in promulgating this FIP is section 110(c)(1)(B) of the Act. We acknowledge that the proposed FIP, in identifying potential inadequacies in the Minnesota and Michigan regional haze SIPs, may have given the impression that the authority for promulgating the FIP was a specific determination by EPA that the States' SIPs failed to meet the requirements of the Act and the regional haze rule. However, as clarified in this section, the authority for the promulgation of the FIP arises from section 110(c)(1)(A) of the Act.

C. Minnesota and Michigan's Regional Haze SIP Submittals

Minnesota subsequently submitted to EPA a regional haze SIP on December 30, 2009, a draft supplement to the SIP on January 5, 2012, and a final supplement to the SIP on May 8, 2012. Michigan submitted to EPA a regional haze SIP on November 5, 2010. In general, with regard to the subject-to-BART taconite facilities identified in the respective plans, each State identified Good Combustion Practices (GCP) as the primary control method representing BART for NO_X.

On January 25, 2012, EPA proposed approval of the Minnesota regional haze plan in which EPA, among other things, proposed to approve BART for the subject-to-BART taconite facilities (77 FR 3681). However, prior to EPA's final action on Minnesota's regional haze plan on June 12, 2012, EPA learned through public comment that Minnesota and Michigan had each failed to thoroughly analyze all feasible BART control technologies for the taconite facilities, and that the SO_2 and NO_X emission limits set forth in each State's SIP might not reflect BART. Therefore, in light of the uncertainty pertaining to the States' BART determinations for taconite facilities, EPA deferred action on emission limits that Minnesota intended to represent BART for taconite facilities in the final rule approving the Minnesota regional haze SIP (77 FR 34801, June 12, 2012). Correspondingly, EPA proposed approval of certain provisions of the Michigan regional haze SIP, while deferring any action on those provisions of the SIP that addressed the requirement for BART for the one taconite plant in Michigan to which BART applies (77 FR 46912, August 6, 2012). Pursuant to section 110(k)(3) of the Act, EPA may approve a SIP revision in part when only a portion of a SIP revision meets all applicable requirements of the Act.

D. EPA's Regional Haze FIP and Related Actions

EPA proposed a FIP on August 15, 2012 (77 FR 49308) pursuant to section 110(c)(1)(A) of the Act, based on EPA's finding that Minnesota and Michigan failed to timely submit a regional haze SIP, and EPA's continuing duty to promulgate a FIP to address such failure. At the same time, EPA proposed disapproval of the BART determinations for the subject-to-BART taconite facilities made by Minnesota and Michigan for failing to meet the requirements of the Act and the regional haze rule. However, in regards to the proposed disapproval, several

commenters raised concerns that EPA did not provide adequate notice of its rationale for disapproving the States' BART determinations.

Therefore, EPA is taking two separate but related actions. In this rulemaking action, EPA is finalizing the FIP for BART for the subject taconite plants in Michigan and Minnesota. Secondly, in a separate action, EPA is issuing and seeks comment on a supplemental notice of proposed rulemaking elaborating upon the Agency's rationale for proposing partial disapproval of the Minnesota and Michigan SIPs as they pertain to the requirement for BART for taconite plants. The full basis for the partial disapproval is set forth in the separate action.

II. Comments and Responses

On August 15, 2012, EPA published a **Federal Register** Notice entitled ''Approval and Promulgation of Implementation Plans; States of Minnesota and Michigan; Regional Haze Federal Implementation Plan'' (77 FR 49308). In this notice, the EPA requested comment on EPA's proposed BART determinations and FIP for taconite ore processing facilities located in Minnesota and Michigan. Public comments were accepted at both a public hearing held in St. Paul, Minnesota, on August 29, 2012, and in writing until September 28, 2012.

EPA received comments from Cliffs Natural Resources Inc., ArcelorMittal Minorca Mine Inc., the United States National Park Service (NPS), the Michigan Department of Environmental Quality (MDEQ), the United States Forest Service, the National Parks Conservation Association (NPCA), the Fond du Lac Band of Lake Superior Chippewa, the Leech Lake Band of Ojibwe, the National Tribal Air Association, the Red Cliff Band of Lake Superior Chippewas, U.S. Steel Corporation, and more than 1,000 private citizens.

A. General Comments in Support of the Proposed Rule

Commenter: National Parks Conservation Association.

Comment: NPCA supports finalization and implementation of the proposed controls, which will significantly benefit the air quality in the parks, wilderness areas, and communities surrounding these plants.

Commenter: 1,244 private citizens provided similar comments.

Comment: As a resident of the upper Midwest and a national parks supporter, I want to see natural air quality restored to Voyageurs and Isle Royale National Parks and Boundary Waters Canoe Area Wilderness just as Congress intended. That's why I support EPA's proposal to reduce haze-causing pollution from taconite plants. These large industrial polluters should clean up their air pollution under the Regional Haze Rule.

Reducing haze pollution in our parks will bring healthier air to surrounding communities as well as more visitors who support our local economies. That's why I want EPA to require the most effective methods for reducing air pollution from taconite plants in Michigan and Minnesota. In addition to the emission reductions outlined in EPA's proposed plan, I encourage EPA to evaluate pollution controls that would lead to cleaner air.

Commenter: Fond du Lac Band of Lake Superior Chippewa.

Comment: The Band strongly supports the FIP proposed by Region 5, particularly with regard to Region 5's determination that low NO_X burners are BART for taconite facilities. This option is technically feasible as these burners have already been installed on Minntac's grate-kiln furnaces and are being installed on Essar's straight-grate kiln furnaces. Low NO_X burners have been shown to be affordable with control costs at roughly $500 per ton, which is well within the range of costs deemed affordable for BART by states and EPA. Low NO_X burners are a wise choice because they prevent NO_X from ever being formed. This is a key concept in pollution prevention. Collection and disposal of pollutants can lead to secondary environmental problems, as well as increased energy consumption. The Band contends that installation of these burners is an equity issue. It would be unfair to allow other facilities to operate indefinitely without having to install low NO_X burners.

Commenter: Red Cliff Band of Lake Superior Chippewa.

Comment: Red Cliff supports EPA's proposed requirement for low NO_X burners for all subject taconite furnaces in Michigan and Minnesota.

Commenter: Leech Lake Band of Ojibwe.

Comment: Low NO_X burners have been installed voluntarily, previous to this action, by two taconite facilities with different furnace systems commonly utilized in the taconite industry. These system installs have shown substantial reductions, up to 60 to 70 percent, can be achieved with a minimal cost of $500 per ton or less. The Band also agrees that taking a preemptive approach by preventing the formation of NO_X makes sense versus an after-production control technology that is less effective and more costly, both economically and environmentally.

Commenter: National Tribal Air Association.

Comment: The Association agrees that using low NO_X burners as BART for both straight and grate-kilns is a good approach. Not only is the cost to remove NO_X inexpensive, but these burners can reduce NO_X by up to 70 percent. Therefore, placing a limit on NO_X of 1.20 pounds per million British Thermal Units on a 30-day rolling average for facility lines is very reasonable.

Commenter: National Park Service.

Comment: NPS agrees with EPA's conclusions that control of emissions from taconite plants in Minnesota and Michigan can be expected to yield significant benefits in reducing visibility impairment in the Class I area in the two states; and that technically feasible controls are available at a reasonable cost for taconite plants that can be expected to provide a visibility benefit that makes those controls warranted.

Commenter: U.S. Forest Service.

Comment: The Forest Service supports the proposed FIP to require BART for the taconite plants in Minnesota and Michigan. According to technical analyses by the State of Minnesota and others, the highest contributors to haze in the Boundary Waters from all sources in the U.S. are the taconite industry and power plants. We support the emission controls that the taconite plants would be required to install under the proposed FIP. The FIP demonstrates that these controls are technically feasible and available for the taconite industry to reduce emissions and are already being used by some within the industry. The implementation of the Minnesota regional haze plan is nearly five years past due. Considerable effort and resources have been spent over the past ten years developing the technical information necessary to complete implementation. Much of the technical work was done by states, Tribes, and FLMs working together through multi-state regional planning organizations. The Forest Service has monitored visibility in the Boundary Waters since 1985. The results of this technical work and monitoring support the requirement for BART to reduce impacts to the Boundary Waters.

Response: EPA acknowledges these commenters' support of the Agency's efforts in developing a FIP for the taconite industry and agrees.

B. Comments Concerning the Adequacy of the Public Comment Period

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs stated that EPA provided inadequate opportunity to

comment on the proposed FIP. Cliffs alleged that 45 days was not a reasonable time period to complete the task of preparing an appropriate response to the proposed FIP given the highly technical concerns surrounding EPA's BART determinations for the taconite industry.

Response: EPA disagrees that the Agency did not provide an adequate opportunity for public comment. Section 307(h) of the CAA requires EPA to provide ''a reasonable period for public participation of at least 30 days'' when promulgating a FIP. Here, EPA chose to provide a significantly longer 45-day public comment period in light of the many technical issues surrounding EPA's proposed BART determinations for the taconite industry. EPA believes that 45 days was a reasonable amount of time for Cliffs and others to comment on EPA's proposed FIP.[2] Cliffs' assertion that it should have been granted an extension to conduct a new BART analysis is without merit. Cliffs had several years to conduct a thorough BART analysis, and its failure to timely do so does not bear upon the reasonableness of the length of EPA's comment period. Indeed, the fact that Cliffs was able to prepare an extensive 61-page comment document within the allotted time supports EPA's contention that 45 days was a reasonable period for third parties to comment on the proposed FIP.

C. Comments Questioning EPA's Authority To Issue a Federal Implementation Plan

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs stated that EPA has not met the threshold requirements for issuing a FIP. EPA's proposed FIP did not provide a critique of Minnesota and Michigan's BART determinations for the taconite industry or explain why those determinations were inadequate. As a result, Cliffs argued that EPA does not have the legal authority to issue a FIP.

Response: EPA believes that it has a strong basis for proposing disapproval of Minnesota and Michigan's BART determinations for the taconite industry. Nonetheless, EPA agrees that the proposed rule did not provide a sufficiently detailed critique of the state determinations' inadequacies. As a result, EPA has chosen to issue a supplemental notice of proposed rulemaking providing additional rationale for the Agency's proposed disapproval. Contrary to Cliffs' assertion, however, EPA was not required to make a finding that Minnesota and Michigan's BART determinations were deficient before issuing a FIP. Section 110(c)(1)(A) of the CAA provides that EPA ''shall promulgate a [FIP] within 2 years after the Administrator finds that a State has failed to make a required submission * * * unless the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such Federal Implementation plan.''

Pursuant to the regional haze rule, states were required to submit regional haze SIPs no later than December 17, 2007 (64 FR 35714, July 1, 1999). Neither Minnesota nor Michigan made the required submission by this date. Consequently, EPA issued a finding on January 15, 2009 that Minnesota and Michigan, as well as certain other states, had failed to submit SIPs addressing the regional haze requirement (74 FR 2392). This finding triggered EPA's statutory duty to either approve a subsequent state SIP submission or issue a FIP. While it is true that Minnesota and Michigan subsequently submitted regional haze SIPs to EPA, the Agency has not approved either of these plans with respect to the states' BART determinations for the taconite industry. On the contrary, EPA has proposed to disapprove the states' BART determinations for failure to meet the minimum requirements of the CAA. Thus, EPA had both the authority and the continuing obligation to issue a FIP for the taconite industry in Minnesota and Michigan based on the Agency's January 15, 2009 finding of the states' failure to submit.

Commenter: Michigan Department of Environmental Quality (MDEQ).

Comment: MDEQ commented that Section 110(c)(1) of the Act authorizes EPA to promulgate a FIP within two years after making a finding that a state's SIP submittal does not satisfy the CAA. However, the CAA does not allow EPA to propose a FIP and simultaneously propose disapproval of the state's SIP.

Response: MDEQ's interpretation of section 110(c)(1) is incorrect. Once EPA has made a finding of a state's failure to submit, EPA's authority and continuing obligation to issue a FIP does not end until the state has corrected the deficiency and EPA has approved a subsequently submitted SIP. Nowhere in the CAA is there language that limits EPA's authority to simultaneously propose a FIP and propose disapproval of a state's SIP where there has been a prior finding of a failure to submit.

Commenter: Cliffs Natural Resources, ArcelorMittal Minorca Mine, and Michigan Department of Environmental Quality (MDEQ).

Comment: Cliffs and MDEQ stated that EPA failed to afford the Minnesota and Michigan SIP proposals the requisite deference. Under the visibility program, states have the primary responsibility for establishing standards, including BART. Thus, Cliffs and MDEQ argued that EPA can disapprove a SIP only where it fails to meet minimum CAA requirements.

Response: While Congress intended states to take the lead in developing regional haze SIPs, it balanced that decision by requiring EPA to review state plans to determine whether they meet the requirements of the CAA. EPA's review is not limited to a ministerial type of automatic approval of a state's decisions. Rather, EPA must consider not only whether the state considered the appropriate factors, but whether the state acted reasonably in doing so. In undertaking such a review, EPA does not ''usurp'' the state's authority, but ensures that such authority is reasonably exercised.

Here, EPA firmly maintains that neither state's regional haze SIP met the minimum requirements of the CAA. Among other things, EPA takes issue with the states' assertions that low NO_X burners are not technically feasible control options for indurating furnaces and that good combustion practices represent BART. Nonetheless, EPA acknowledges that its August 15, 2012 proposed action (77 FR 49308) did not provide a sufficiently detailed analysis of the deficiencies of the states' BART determinations for the taconite industry. Therefore, EPA is publishing a supplemental notice of proposed rulemaking that further addresses the Agency's rational for proposing disapproval of the states' choices regarding taconite BART.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that Minnesota and Michigan engaged in extensive and proper rulemaking efforts. Cliffs then proceeded to provide a detailed history of each state's SIP-development process.

Response: EPA agrees that Minnesota and Michigan spent considerable time and effort preparing their regional haze SIPs. As stated previously, EPA intends to publish a supplemental notice of proposed rulemaking that further addresses the Agency's rationale for proposing disapproval of Minnesota and Michigan's BART determinations for taconite facilities. EPA reiterates, however, that the Agency had the

[2] In fact, Cliffs received a signed copy of the proposed FIP on July 17, 2012, nearly a full month before the formal start of the comment period. Thus, Cliffs had effectively 75 days to prepare its comments.

authority and continuing obligation to promulgate a FIP for the taconite industry based on the Agency's earlier finding that Minnesota and Michigan had failed to submit regional haze SIPs in a timely manner (74 FR 2392, January 15, 2009).

D. Comments Supporting EPA's Authority To Issue a Federal Implementation Plan

Commenter: National Parks Conservation Association.

Comment: At a public hearing on the proposed FIP, representatives for one taconite owner asserted that EPA lacked authority to issue the proposed FIP. The company's assertion has no merit. In fact, EPA has an obligation to develop a FIP under the CAA. The CAA provides states with initial responsibility for identifying sources and determining BART for purposes of regional haze. It is equally clear, however, that EPA retains authority to approve or disapprove the states' determinations and issue a FIP if necessary to correct state plan deficiencies.

EPA is not only well within its authority to promulgate the proposed FIP; it is required to do so because the state plans do not meet the requirements of the CAA. While commenters disagree with some of EPA's proposed BART determinations in the taconite FIP, the record plainly supports EPA's finding that neither the Minnesota nor the Michigan proposal met minimum CAA requirements. The National Park Service, the National Forest Service, and other commenters all submitted detailed technical reviews establishing the many deficiencies in the BART analysis and conclusions of Minnesota and Michigan's plans.

Response: EPA agrees with the commenter that EPA has the authority and obligation to issue a FIP.

E. Comments Concerning the Use of New Information To Evaluate Minnesota and Michigan's BART Determinations

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA cannot use new information regarding the technical feasibility of low NO_X burners as a control option for indurating furnaces to undermine the states' BART determinations. Cliffs argued that EPA is seeking to reject Minnesota and Michigan's BART determinations based on information that was not available to either state at the time of their SIP submissions to EPA for approval. To support its position, Cliffs pointed to EPA's BART Guidelines, which state that new technologies need only be considered by a state if they become available before the close of a state's public comment period. Cliffs alleged that low NO_X burners were not an ''available'' technology because testing at Minntac and Essar had either not yet commenced or was still ongoing at the time Minnesota and Michigan's periods for public comment had ended.

Commenter: Michigan Department of Environmental Quality (MDEQ).

Comment: MDEQ commented that there was not enough information available prior to the close of Michigan's public comment period on June 23, 2010 to indicate that low NO_X burners had been successfully utilized on indurating furnaces. MDEQ also argued that EPA's proposal to find that low NO_X burners represent BART for NO_X at Tilden was impermissibly based on information generated after the close of Michigan's public comment period.

Response: EPA disagrees with Cliffs and MDEQ's comments for several reasons. First, EPA again reiterates that the Agency had the authority and responsibility to promulgate a FIP for the taconite industry based on the Agency's earlier finding that Minnesota and Michigan had failed to submit regional haze SIPs in a timely manner (74 FR 2392, January 15, 2009). Thus, EPA was entitled to rely on whatever information was available regarding the technical feasibility of low NO_X burners at the time the Agency performed its BART analysis, including results from the testing at Minntac and Essar.

Nonetheless, even if EPA's authority to promulgate a FIP had been based solely on final disapproval of the states' BART determinations, the information regarding the technical feasibility of low NO_X burners was not ''new'' as Cliffs suggests. As the BART Guidelines make clear, technical feasibility encompasses two distinct concepts, ''availability'' and ''applicability.'' 40 CFR part 51, appendix Y. A technology is considered ''available'' if the source owner may obtain it through commercial channels, while it is considered ''applicable'' if it can reasonably be installed and operated on the source type under consideration. As Cliffs pointed out, only technologies that are ''available'' at the close of a state's public comment period need be considered as control options by the state.

However, Cliffs' argument that low NO_X burners were not an ''available'' technology at the time Minnesota and Michigan's periods for public comment had ended is incorrect. Testing at Minntac and Essar had nothing to do with the ''availability'' of low NO_X burners. Rather, the testing at those facilities concerned the ''applicability'' of low NO_X burners to the source type in question—indurating furnaces. There can be no dispute that low NO_X burners were ''available'' at the time that Minnesota and Michigan developed their regional haze SIPs because this technology has been obtainable through commercial channels as an option for the control of nitrogen oxide emissions for many years. Therefore, Minnesota and Michigan were required to consider low NO_X burners in their BART analyses, which both states did, albeit dismissively.

Consequently, the sole question presented to the states was one of ''applicability''—whether low NO_X burners could be successfully installed on indurating furnaces. In regards to this question, the BART Guidelines make clear that ''a commercially available control option will be presumed applicable if it has been used on the same or a similar source type.'' 40 CFR part 51, appendix Y. However, in contrast to the question of ''availability,'' the Guidelines make no mention of a cut-off date after which states may reject information regarding a technology's ''applicability.'' Even so, contrary to Cliffs' assertions, both states were aware that low NO_X burners had been successfully installed on two lines at U.S. Steel's Minntac facility prior to the end of their respective periods for public comment.[3] In a June 23, 2010 letter to the Michigan Department of Natural Resources and Environment regarding the state's draft regional haze SIP, EPA commented that ''a low-NO_X main burner firing solid fuels'' had been installed at Minntac and that ''work done by other companies had demonstrated that burner designs that lower flame temperature can reduce NO_X formation in taconite furnaces.'' [4] Similarly, in a February 10, 2012 letter to the Minnesota Pollution Control Agency responding to the state's draft regional haze SIP supplement for taconite facilities, EPA explained in detail that ''U.S. Steel has demonstrated the development and use of low NO_X main burners that achieve 70 percent NO_X reduction on its indurating

[3] The comment period for Michigan's regional haze SIP closed on June 23, 2010. The comment period for the Minnesota's regional haze SIP supplement regarding BART at taconite facilities closed on February 3, 2010, but EPA was granted an extension to submit comments. EPA's comments were submitted on February 10, 2010, and were received and considered by MPCA.

[4] See Michigan Regional Haze plan: EPA Letter to Michigan Department of Environmental Quality Regarding BART, May 24, 2012 (Docket # EPA–R05–OAR–2010–0954–0008).

lines.'' [5] In addition to these comments, both states received comments regarding the technical feasibility of low NO_X burners from the Forest Service as well. Therefore, both Michigan and Minnesota were aware that low NO_X burners had been successfully applied to indurating furnaces, and Cliffs' arguments that the results of these studies somehow constitute ''new'' information are without merit.

Finally, even if information regarding the technical feasibility of installing low NO_X burners to indurating furnaces was not available to Minnesota or Michigan, EPA nonetheless had a duty to consider any new information that subsequently arose when reviewing the states' SIPs. The Ninth Circuit recently held that ''if new information indicates to EPA that an existing SIP or SIP awaiting approval is inaccurate or not current, then, viewing air quality and scope of emissions with public interest in mind, EPA should properly evaluate the new information and may not simply ignore it without reasoned explanation of its choice.'' *Sierra Club* v. *EPA,* 671 F.3d 955, 967 (9th Cir. 2012). Thus, EPA is required, at a minimum, to take new information into account during the SIP approval process and, if necessary, alter its final decision accordingly.

Commenter: Fond du Lac Band of Lake Superior Chippewa.

Comment: At the public hearing held in Saint Paul, Minnesota, on August 29, 2012, some commenters voiced the opinion that low NO_X burners should not be considered as BART because the technology was brought forward after the comment period on the Minnesota regional haze SIP supplement had closed. This is incorrect. Low NO_X burners were in use and under consideration both before and during the comment period of December 19, 2011 to February 3, 2012. Discussions concerning the installation of low NO_X burners at Minntac began in 2008, and the burners themselves were installed in 2010, several months before the regional haze SIP supplement was proposed. U.S. Steel's report to MPCA on the performance to-date of their low NO_X burners at Minntac was submitted in December of 2011, around the time that Minnesota's SIP supplement went on public notice. Additionally, Essar Steel committed to the use of low NO_X burners in its new plant near Nashwauk in 2010. The record indicates that discussions took place between MPCA and the taconite facilities around the time that the SIP supplement public comment period was open. Because of the timing of U.S. Steel's reports and the fact that no other economically-feasible technology offered more than 15 percent control of NO_X, those discussions almost certainly included the possibility of requiring low NO_X burners on taconite furnaces.

In light of the emerging use of low NO_X burners, the U.S. Steel report, and the discussions indicated in the record, there is no basis for the claim that low NO_X burners were only brought forward after the comment period. Low NO_X burner technology was not a surprise and there is no procedural unfairness in the EPA considering it. Furthermore, to the extent that low NO_X burners can somehow be construed as new information, there is precedent for considering new information while promulgating regulations. For example, on July 20, 2012, EPA informed petitioners that it would reconsider its Mercury and Toxics Standards based on the availability of new technical information.

Commenter: National Parks Conservation Association.

Comment: During the public hearing on this matter, a taconite company asserted that EPA's FIP was based on ''new information'' that is ''outside the record'' and that the company's ''due process'' rights were somehow jeopardized by EPA's proposal. As a legal matter, the company's argument has no merit. Likewise, as a practical matter, the company's complaints are unavailing.

Response: EPA agrees with these commenters that it was appropriate for EPA to rely on whatever information was available regarding the technical feasibility of low NO_X burners at the time the Agency performed its BART analysis. For a more detailed discussion of this issue, see EPA's previous response to comments from Cliffs, ArcelorMittal, and MDEQ.

F. Comments Concerning EPA's Best Available Retrofit Technology Analysis

Commenter: National Parks Service.

Comment: NPS agrees with EPA and with Michigan and Minnesota on the BART-eligibility determinations with respect to the taconite facilities and the states' determination that BART for direct PM is satisfied by the taconite MACT rule.

Response: EPA acknowledges NPS's support.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs objected to EPA's reference to conversations with industry competitors and their vendors in determining the feasibility of controls for Cliffs' indurating furnaces. Cliffs asserted that EPA ignored information provided by Cliffs and its process engineering firms.

Response: EPA spent significant time with all affected sources and thoroughly considered all information. EPA acknowledges that it relied heavily upon documented information from Cliffs' competitors in the taconite industry because these companies have experience with low NO_X burner technology and provided data from actual experience with such technology. It would have been inappropriate for EPA to have ignored substantive information based upon actual experience.

1. Comments Asserting That EPA's BART Analysis Did Not Assess all Available Technologies

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs claimed that EPA's BART determinations were arbitrary because they ignored good combustion practices (GCP) as a BART alternative. Cliffs stated at the MPCA March Citizens Board meeting that ''GCP is already required under other federal regulations, including the taconite MACT rule.''

Response: Cliffs' support of GCP as BART lacks merit because GCP is neither defined by the Minnesota Pollution Control Agency, nor is it typically considered a NO_X reduction technique. For example, the January 30, 2009 ''NO_X Reduction Analysis'' done by Hatch for U.S. Steel's Minntac Iron Ore Pelletizing Operation did not list GCP as a potential NO_X reduction technology for an indurating furnace.[6] Similarly, the 2008 BACT analysis for JEA—Greenland Energy Center Units 1 and 2 did not list GCP as a potential NO_X control.[7] In fact, these analyses state that GCP tends to increase NO_X emissions. This is because measures taken to minimize the formation of NO_X during combustion inhibit complete combustion, which increases emissions of carbon monoxide. Conversely, GCP aims to reduce carbon monoxide emissions. According to the September 2010 ''We Energies Biomass Energy Project Revised Control Technology Review for Carbon Monoxide Emissions for the Biomass-Fired Boiler,'' there is an inverse relationship between NO_X emissions and carbon monoxide emissions, which means that improving

[5] See MI Haze FIP, EPA 6–23–10 comments to MDEQ on MI Haze submittal (Docket # EPA–R05–OAR–2010–0954–0037).

[6] Docket # EPA–R05–OAR–2010–0037–0039.

[7] Docket # EPA–R05–OAR–2010–0037–0070.

combustion efficiency can increase NO_X emissions.[8]

Concerning the GCP requirement in the taconite MACT rule, GCP for the MACT is not the same as GCP for NO_X. GCP for MACT is aimed at reducing emissions of products of incomplete combustion (PIC). To minimize PICs, the operating conditions targeted are generally the opposite from those targeted for reducing NO_X. As explained in the taconite MACT rule (68 FR 61883, October 30, 2003), ''The basic method used in reducing NO_X emissions is a reduction in combustion temperature, which is the opposite strategy needed for minimizing PIC (i.e., increasing combustion temperature).'' In conclusion, GCP would be expected to increase NO_X emissions, not decrease them.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA is required to consider ''any existing pollution control technology at the source.'' Cliffs argued that EPA failed to adequately consider or consistently apply this threshold factor to the BART determinations in its proposed rule.

Response: To the extent that Cliffs is referring to its use of GCP as an existing pollution control technology, neither the operational practices that comprise GCP nor their impact on reducing emissions has been documented by Cliffs. As described in detail in the response to the previous comment, EPA does not consider Cliffs' use of GCP to constitute ''existing control technology'' on these furnaces.

Commenter: National Parks Conservation Association.

Comment: NPCA commented that EPA failed to consider fuel-blend alternatives, including greater or exclusive use of natural gas at grate-kiln furnaces, as part of the Agency's BART analysis for SO_2 and NO_X. Fuel-blend alternatives are a technically feasible control option because indurating furnaces can successfully be operated on alternative fuels, namely fuel blends that consist primarily of natural gas. Contrary to the taconite plant owners' assertions, consideration of alternative fuels is required for BART where changing to cleaner fuel would not necessitate significant changes at any existing facility. There is no legal rationale for excluding this viable pollution control. Additionally, the assertion that alternative fuel costs are uncertain has no merit. There is simply no factual support for price uncertainty being a basis to reject consideration of natural gas as an alternative to coal. Even if significant uncertainty existed, it can be dealt with appropriately in the BART analysis. Finally, the assertion that moving towards a more natural gas-based fuel blend would mean higher NO_X emissions in exchange for lower SO_2 emissions is a red herring. The existence of such potential secondary impacts is not a reason to discard a BART option prior to analysis. It is a reason to perform the analysis itself.

Response: Alternative fuels were not considered for the following reasons. The straight-grate furnaces at ArcelorMittal, Hibbing Taconite, and Northshore Mining already burn natural gas. Similarly, U.S. Steel's Keetac and Minntac facilities already burn a fuel mix of natural gas and low-sulfur coal. While fuel-blend alternatives could have been considered for the grate-kiln furnaces at United Taconite and Tilden, EPA proposed to require the most stringent control technology, flue-gas desulfurization (FGD), at these facilities. As the BART Guidelines make clear, where EPA or the states choose the most stringent control option as BART, other control options need not be considered. Therefore, EPA was not required to consider fuel-blend alternatives as part of the Agency's BART analysis. However, EPA notes that subsequent to the proposal, Tilden agreed to convert to natural gas, while United Taconite will be substantially reducing its emissions through the use of natural gas and low-sulfur coal.

Commenter: National Parks Conservation Association.

Comment: EPA's NO_X BART determinations conclude that significant reductions could be achieved cost-effectively by the installation of low NO_X burners at all taconite kilns. While NPCA concurred with this conclusion, it commented that EPA failed to fully consider the use of regenerative selective catalytic reduction (RSCR). For instance, although RSCR was noted as an available technology in Keetac's BART analysis, EPA's FIP made no note of it. For Tilden, on the other hand, EPA noted this option, but only to point out that the company found it to be infeasible. In fact, this technology appears to be feasible for indurating furnaces. At a minimum, a more thorough evaluation by EPA is necessary. In this case, EPA has not shown that circumstances preclude the application of RSCR to the units in question via evaluation of gas characteristics or demonstration of technical challenges. It has offered no evidence that RSCR is technically infeasible. A fuller evaluation of this technology is warranted as part of a BART determination.

Response: EPA did evaluate post-combustion NO_X-control options when it reviewed Minnesota's regional haze plan and agreed with the state's determination that post-combustion control of NO_X emissions from taconite facilities are not BART. For the proposed and now final rule, EPA evaluated new data on the use of low NO_X burners at taconite facilities and, after a five-factor BART analysis, determined that low NO_X burners are BART for these facilities. The BART analyses are fully described in section V of the proposed rule (77 FR 49308). EPA also considered RSCR and related selective catalytic reduction technologies at some of the subject taconite units. EPA concluded in its BART analyses that RSCR and other post-combustion controls do not represent BART for the subject taconite units because, after the installation of low NO_X burners, the incremental costs of installing further post-combustion controls are unreasonably high. Therefore, this final rule requires that taconite indurating furnaces meet NO_X emission limits consistent with low NO_X burner technology.

Commenter: National Parks Conservation Association.

Comment: EPA's analysis for SO_2 provides evidence that dry FGD is feasible for taconite facilities, and the Agency requires the use of this technology at the three highest emitting lines (at United Taconite and Tilden). We support these determinations. However, EPA fails to fully analyze the use of dry FGD on the lower-emitting units, instead concluding, without support, that it would not be ''economically reasonable.'' NPCA asks that EPA analyze whether dry FGD, clearly a feasible technology, could provide cost effective reductions at additional units.

Response: EPA's BART analysis demonstrated that dry FGD is feasible for the highest emitting lines when those lines are uncontrolled, but determined that the same technology has unreasonably high incremental costs for units with lower uncontrolled emissions. EPA notes, however, that while FGD was originally proposed as BART for the units at United Taconite and Tilden, those facilities have since agreed to operational limits on the types of fuels that may be burned As a result, FGD is no longer being required as BART. Additional discussion of this issue can be found in section III of the preamble.

Commenter: National Parks Service.

Comment: It appears that low temperature oxidation is technically and economically feasible for the entire

[8] Docket # EPA–R05–OAR–2010–0037–0069.

industry. In addition, tail-end SCR with natural gas reheat has been found technically feasible and borderline economically feasible based on a BACT analysis from several years ago when natural gas prices were much higher. Another form of SCR, RSCR looks promising, but as a new technology, would require trials.

While we would normally prefer to see all of the technically feasible control options evaluated, given the time constraints and the success of the low NO_X burner technology, it is likely that low NO_X burners will reduce NO_X so much that addition of the other technologies would become too expensive for this phase of the regional haze program. We therefore agree that low NO_X burners at 1.2 lbs NO_X/MMBTU represent BART for the taconite industry. By setting such a uniform limit, EPA is establishing a ''level playing field'' that is achievable by all of the taconite plants and will provide substantial (almost 16,000 TPY) NO_X reductions.

Response: EPA agrees with the commenter that post-combustion control technologies would likely be expensive for additional pollution reduction. EPA maintains that low NO_X burners are the appropriate control technology for the indurating furnaces at the taconite facilities. Thus, EPA is finalizing its determination that low NO_X burners represent BART.

Commenter: National Parks Service.

Comment: EPA proposes to determine that BART for SO_2 for straight-grate kilns is existing controls because these furnaces do not burn coal. While true, they burn fuel oil, which can have a high potential for emitting SO_2 depending on the fuel's sulfur content. Although the BART Guidelines do not mandate fuel switching, they encourage evaluation of lower sulfur content fuels. For example, limiting fuel sulfur was an option considered by EPA for oil-fired EGUs in a separate BART rule. We suggest that Minnesota consider use of lower sulfur fuels in future reasonable progress analyses.

Response: EPA's data indicate that the taconite facilities with straight-grate furnaces use natural gas as the primary fuel with fuel oil as a back-up fuel only. Given the limited use of fuel oil, emission reductions from using lower sulfur fuel would be limited. Nonetheless, EPA agrees with the commenter that the state should consider the impacts of using a lower sulfur fuel in its future reasonable progress analyses and is requiring that the taconite facilities keep records of any future use of fuel oil.

Commenter: National Parks Service.

Comment: NPS concurred with EPA's statement that ''[the Agency does] not agree that the MPCA and Minntac have adequately documented the infeasibility of all SO_2 controls described.'' This observation is especially pertinent with respect to the technical feasibility of spray drying absorption (SDA). According to the taconite industry consultant, SDA is not technically feasible because ''the high moisture content of the exhaust would lead to saturation of the baghouse filter cake and plugging of the filters and dust collection system.'' On the contrary, SDA requires moisture because a slurry of lime and water is injected into the spray dryer where the slurry reacts with SO_2 to form a dry sulfate power that is then collected in the baghouse. As long as the moisture content of the gas stream is not excessive and the temperature is not too low, SDA becomes a preferred and highly effective SO_2 control option. It is expected that retrofitting the facilities with SDA would eliminate the need for the existing Venturi rod scrubbers used to control PM on most of the taconite furnaces, thus reducing water consumption, gas stream moisture content, and PM emissions due to the higher efficiency of the baghouse.

Response: In the proposed rule, EPA stated that while the state's documentation for determining the technical feasibility of all SO_2 controls was inadequate, EPA did agree with Michigan's conclusion that additional SO_2 controls, including SDA, were not cost effective and therefore not BART. EPA has not changed its position on this issue in the final rule.

2. Comments Asserting That EPA's Baseline NO_X Emissions Are Arbitrary

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA's baseline NO_X assumptions are arbitrary. EPA failed to even consider the actual emissions from each taconite furnace, let alone use them as the starting point for calculating furnace-specific baseline emissions.

Response: EPA disagrees. In the case-by-case BART analysis for each subject taconite facility, EPA clearly listed the baseline actual annual emissions for each taconite furnace (see, e.g., Table V–B.24 for Hibbing Taconite (77 FR 49321)). In the initial stages of the BART development process, there was a significant lack of emissions data for the taconite facilities, as acknowledged by MPCA. However, additional monitoring and emission reporting from the taconite facilities enabled EPA to determine baseline NO_X emissions for each facility.

G. Comments Concerning EPA's Analysis of Low NO_X Burner Technology as NO_X BART

1. Comments Supporting EPA's Determination That Low NO_X Burners Are Technically Feasible

Commenter: National Parks Conservation Association.

Comment: NPCA commented that EPA's documentation of low NO_X burners demonstrated that significant, cost-effective emission reductions are afforded by their use on both straight-grate and grate-kiln furnaces. Despite this record, a taconite company raised several concerns about EPA's determination during the public hearing. The concerns were that a given control technology will not transfer between indurating furnaces of the same type, low NO_X burners will impact processing (product quality, fuel use, etc.), and there has been insufficient time to study various aspects or impacts of this technology.

These concerns are either misplaced or incorrect. As to the first point, low NO_X burners have been successfully applied to a wide variety of units, including power plants, refineries, chemical companies, and other industrial settings, which burn a wide variety of fuels, including gas and coal. There may be individual differences between the burners at different taconite units. As is always the case, customization to the particular unit will be required. However, the differences among taconite furnaces of the same type are not significant enough to conclude that this clearly robust technology could not be applied to one as well as the others. Indeed, technology transfer would be impossible without such basic assumptions.

As to the impact of low NO_X burners on operational parameters, EPA's FIP includes information addressing the points of product quality and fuel use. Minntac's experience demonstrates no impact to pellet quality, and after some adjustment, no increase in fuel use.

Finally, far from having had insufficient time to analyze these controls, the taconite facilities have had years in which to contact vendors, do engineering studies and modeling, and perform testing. The regional haze process has been delayed by many years at this point.

Response: EPA agrees with the commenter that low NO_X burners can be used to control NO_X emissions from both straight-grate and grate-kiln indurating furnaces used in the taconite processing industry. EPA also agrees with the commenter that based on data from taconite facilities where low NO_X

burners are either in use or planned product, quality should not be compromised.

Commenter: National Park Service.

Comment: NPS commented that it agreed with EPA's proposal that BART for NO_X for the taconite industry is low NO_X burners achieving a 70 percent reduction from both straight-grate and grate-kiln furnaces. The proposal for grate-kiln lines is supported by research sponsored by U.S. Steel. The proposal for straight-grate kilns is supported by Essar's testing, which demonstrated a 95 percent reduction in NO_X emissions for its new kiln.

Response: As the commenter points out, EPA has determined that low NO_X burners represent BART. However, EPA is setting an emission limit for each indurating furnace, not a 70 percent control requirement.

2. Comments Asserting That Low NO_X Burners Are Not Technically Feasibility on Straight-Grate Kilns

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA made an unsupported presumption that the low NO_X burner technology tested in a ¼-scale pilot test by Essar for a new source could be translated to all straight-grate furnaces.

Response: As indicated in test reports, NO_X emissions from taconite facilities are generated primarily by the burner. As burner design is the main factor contributing to NO_X emissions, EPA carefully reviewed results of emission tests of low NO_X burners for the different taconite furnace types and concluded that low NO_X burners are technically feasible for straight-grate and grate-kiln furnaces.

Supporting the feasibility of low NO_X burners on straight-grate kilns is a September 19, 2011 summary of findings presented to the Minnesota Pollution Control Board entitled ''Results of Testing at ¼-Scale of LE Low NO_X Burner Prototype for Straight-Grate Pelletizing Furnaces'' by Fives North American Combustion, Inc. (Fives) for Essar.[9] After successful bench-scale testing of Fives' low NO_X LE burners that achieved NO_X reductions greater than 70 percent in a straight-grate pelletizing furnace, Essar and Fives proceeded with a joint $2 million investment in a test rig to simulate a straight-grate pelletizing furnace. In the ¼-scale test rig, the cross-sectional area scaling was very representative of actual furnace geometry, as were the energy inputs and flows. This testing demonstrated an emission rate of 0.25 lbs NO_X/MMBTU, which is well below the proposed limit of 1.2 lbs NO_X/MMBTU. Fives concluded that NO_X emissions in the actual straight-grate furnace should be consistent with those measured in the ¼-scale test conditions. The feasibility of low NO_X burners on straight-grate kilns was also confirmed during a June 20, 2012 call between EPA and a national low NO_X burner manufacturer, Fives North America. Representatives from the manufacturing company were highly confident of the technical feasibility and application of their technology in straight-grate taconite furnaces. EPA agrees with this assessment.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA failed to conduct an independent, case-by-case feasibility analysis as required by the Step 2 of the BART Guidelines. Minnesota and Michigan previously conducted an extensive case-by-case BART analysis, eliminating low NO_X burners as technically infeasible for every taconite indurating furnace. Cliffs asserted that EPA has adopted a ''one-size-fits-all'' approach that is arbitrary and capricious. According to Cliffs, a proper feasibility analysis demonstrates that the technologies selected by EPA are infeasible for Cliffs' indurating furnaces because low NO_X burners are not technically feasible for straight-grate furnaces and grate-kiln furnaces. Cliffs asserted that the Fives burner designed for Essar cannot be used without source-specific engineering and retrofit design. Cliffs claimed that U.S. Steel spent two years modifying the prototype low NO_X burners installed on Lines 6 and 7 at its Minntac facility in an attempt to reach desired emission rates while combusting solid fuel, such as coal and biomass, but were ultimately unsuccessful. ArcelorMittal asserted that a proper feasibility analysis demonstrated that the technologies selected by EPA are infeasible for Minorca's indurating furnace. The commenters submitted information describing indurating furnaces, including the different types of furnaces, and explained what they believe are the differences between furnace types.

Response: EPA believes that its finding that low NO_X burners are technically feasible for both straight-grate and grate-kiln furnaces is supported by test results on various kiln configurations. Taconite furnaces are all based on one of two technologies. Straight-grate kilns are based on a Dravo-Lurgi design system, while grate-kiln furnaces are based on an Allis-Chalmers design system. EPA understands that each specific taconite furnace has unique operating requirements and specialized equipment. However, all furnaces share the same fundamental design style, either grate-kiln or straight-grate.

In assessing control technologies for a source category, EPA's BART Guidelines state that ''control alternatives can include not only existing controls for the source category in question but also take into account technology transfer of controls that have been applied to similar source categories and gas streams.'' 40 CFR part 51, appendix Y. The Guidelines go on to explain that ''[c]ontrol technologies are technically feasible if either (1) they have been installed and operated successfully for the type of source under review under similar conditions, or (2) the technology could be applied to the source under review.'' *Id.*

EPA has concluded that there is a clear case for technology transfer of low NO_X burner technology from grate-kiln furnaces to straight-grate furnaces. First, low NO_X burner technology has been clearly and successfully demonstrated and applied across various industries for decades. Second, EPA does not consider taconite furnaces to be particularly unique given their similar fundamental designs. In the case of taconite applications, the Fives' testing of a low NO_X burner prototype on a straight-grate furnace test rig provides reasonable assurance that full-scale applications, given the appropriate time for engineering and shakedown, will be both feasible and effective. In addition, U.S. Steel has already installed and is successfully operating multi-fuel low NO_X burners on two unique grate-kiln indurating furnaces at their Minntac facility. Prior to the proposed rule, U.S. Steel had already submitted permit applications to install low NO_X burner technologies on two additional furnaces at Minntac as well. U.S Steel has not indicated any issues with technical feasibility that will prevent the company from applying low NO_X burners at either its Keetac facility or the remaining furnaces at Minntac. In response to questions from EPA concerning the installation at Minntac, U.S. Steel described the modifications it made allowing for the successful use of low NO_X burners when burning either coal or natural gas.[10] In EPA's view, this information obtained directly from U.S. Steel rebuts Cliffs' claim that the

[9] Docket # EPA–R05–OAR–2010–0037–0039.

[10] Email from U.S. Steel to EPA dated September 19, 2012 (Docket # EPA–R05–OAR–2010–0037–0071).

prototype low NO_X burner tests were unsuccessful.

Nor is EPA persuaded by Cliffs and ArcelorMittal's arguments that the taconite furnaces at their facilities are unique to the extent that low NO_X burner technology cannot be applied. While EPA understands that a complete engineering analysis will be required to design furnace-specific low NO_X burners and that a shakedown period will be required to understand and optimize operations, EPA does not believe that the uniqueness of each individual taconite furnace proves technical infeasibility. The compliance times being finalized for each facility in this action account for engineering and shakedown time.

Over the years, the taconite industry has demonstrated that it can re-engineer furnaces to adapt to market changes (such as fuel prices), process changes (to accommodate variation in the type of ore being mined), and new technologies (such as heat recuperation systems).[11] It is clear that depending on the needs and priorities of each company, changes to the furnaces have and can be made.

With respect to ArcelorMittal's comment that a proper feasibility analysis would demonstrate that the technologies selected by EPA are infeasible for Minorca's indurating furnace, EPA relies on a September 27, 2012 report submitted by the commenter and authored by Fives North American titled ''Retrofitting Low NO_X Burners on the ArcelorMittal Minorca Straight-Grate Pelletizing Furnaces.'' [12] After review, EPA concludes that this report supports the Agency's conclusion that low NO_X burners are feasible at the Minorca facility. EPA therefore disagrees with ArcelorMittal's assertion that such technology is infeasible. Fives North American was engaged to perform an engineering study and recommend best options for retrofitting low NO_X burners at the pelletizing furnace at the Minorca plant in order to achieve NO_X emission rates below 1.2 lbs NO_X/MMBtu under expected operating conditions. Fives expressed confidence that the company's experience in manufacturing low NO_X burners, coupled with the successful results of the ¼-scale test at Essar, provided sufficient assurance that the technology could be applied at Minorca while preserving pellet quality and energy efficiency.

3. Comments Concerning EPA's Cost Analysis for Low NO_X Burners

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA presumed that low NO_X burners will cost $500/ton at every Cliffs facility despite the fact that none of these facilities identified low NO_X burners as technically feasible. EPA's $500/ton across-the-board cost estimate for NO_X control was neither explained in the proposed rule nor supported by the record.

Response: EPA did not presume that low NO_X burners will cost $500/ton at every Cliffs facility. EPA's proposed rule stated that ''[b]ased on the range of cost-effectiveness values provided, a conservative value of $500/ton will be used as the cost-effectiveness value for low NO_X burners'' (77 FR 49308, 49312). Data made available by U.S. Steel indicate the cost-effectiveness of low NO_X burners on Minntac's Line 6 indurating furnace was $441/ton of NO_X reduced with burning a 60 percent coal/40 percent natural gas fuel mix and $221/ton of NO_X reduced when burning 100 percent natural gas. Barr Engineering and Essar Steel Minnesota have estimated a cost-effectiveness of $370/ton of NO_X reduced for low NO_X burner technology on a planned straight-grate natural gas-fired furnace.[13] This furnace is being designed to meet a much more stringent emission limit of 0.25 lbs NO_X/MMBtu, compared to EPA's proposed limit of 1.2 lbs NO_X/MMBtu. Thus, EPA's value of $500/ton represents a high-end estimate of expected cost-effectiveness of the selected NO_X BART controls and is based on itemized costs and annual NO_X emissions reductions.

4. Comments Concerning the Effectiveness of Low NO_X Burners

Commenter: U.S. Steel.

Comment: U.S. Steel commented that, based upon its experience, the appropriate emission factor when burning solid fuels is 1.5 lbs NO_X/MMBtu, as opposed to the proposed NO_X limit of 1.2 lbs NO_X/MMBtu. U.S. Steel supplemented its comment on October 15, 2012 with data that support a limit of 1.2 lbs NO_X/MMBtu while burning natural gas and 1.5 lbs NO_X/MMBtu while burning solid fuels. U.S. Steel proposed that it be subject to the solid fuel limit, unless it utilizes 100 percent natural gas as a fuel for 30 consecutive days. The natural gas limit would then apply and it would remain subject to that limit until such time that solid fuels were utilized.

Response: Based on a review of the data submitted by U.S. Steel, EPA agrees to revise the NO_X limits in the final rule to 1.2 lbs NO_X/MMBtu while an indurating furnace is burning 100 percent natural gas and 1.5 lbs NO_X/MMBtu when fuels other than natural gas are being used. This revision primarily affects U.S. Steel Keetac, U.S. Steel Minntac, and United Taconite.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA made an unsupported presumption that an emission limit of 1.2 lbs NO_X/MMBtu is equivalent to a 70 percent NO_X reduction at every Cliffs facility and that all taconite furnaces emit NO_X at an uncontrolled baseline rate of 4.0 lbs NO_X/mmBTU in disregard of furnace variability.

Response: The NO_X emission limit that EPA proposed was 1.2 lbs NO_X/MMBtu on a 30-day rolling average. This emission limit was not based on a percent reduction requirement, but rather was based on a demonstration by U.S. Steel that low NO_X burners installed at the Minntac facility could achieve this emission limit. This limit is further supported for straight-grate kilns by successful testing of a low NO_X burner prototype at a 1/4-scale test rig at Essar. It is standard industry practice to perform pilot tests, in which the results of a smaller unit are scaled up to a full production unit. Furthermore, in this case the company was extremely confident that, based upon the results with the 1/4-scale test rig, a limit much lower than 1.2 lbs NO_X/MMBtu could be achieved on the full production unit. However, based on additional test data of operational low NO_X burners submitted by U.S. Steel for Lines 6 and 7 at Minntac, EPA is revising its proposed limit of 1.2 lbs NO_X/MMBtu on a 30-day rolling average. In the final rule, taconite indurating furnaces are subject to a limit of 1.2 lbs NO_X/MMBtu when only natural gas is burned and 1.5 lbs NO_X/MMBtu when fuels other than natural gas are used. Both of these limits are based on a 30-day rolling average.

H. Comments Concerning Non-Air Quality Impacts of Low NO_X Burners

1. Effect on Pellet Quality

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

[11] For example, during the Society of Mining Engineers' Annual Meeting in New Orleans, Louisiana from March 2–6, 1986, a presentation was given titled ''Design and Performance of the National Steel Pellet Plant High Temperature Heat Recuperation System'' (Docket # EPA–R05–OAR–2010–0037–0077). The presentation discussed a high temperature heat recuperation system that was installed at the National Steel Pellet Company facility in Keewatin, Minnesota. The system was similar to those installed at Cliffs' Empire facility and U.S. Steel's Minntac facility.

[12] Docket # EPA–R05–OAR–2010–0037–0037.

[13] Essar and Barr Presentation for Society for Mining, Metallurgy and Exploration, Duluth, Minnesota, April 2012 (Docket # EPA–R05–OAR–2010–0037–0039).

Comment: Cliffs commented that pellet quality cannot be maintained after the installation of low NO_X burner technology.

Response: EPA disagrees. Based on data supplied by U.S. Steel, EPA has concluded that there will be no pellet quality challenges resulting from the installation and operation of low NO_X burner technology. In an email sent by U.S. Steel to EPA on September 19, 2012, U.S. Steel indicated that pellet quality specifications have not changed since the installation of low NO_X burners, with zero off-spec shipments to date.[14] There have been no adverse pellet quality issues related to the installation and operation of the low NO_X burners.

U.S. Steel is required to maintain four pellet quality parameters, after tumble, compressions, reducibility, and low temperature disintegration (LTD), to meet customer specifications. U.S. Steel supplied EPA with data confirming that pellet quality parameters were acceptable after the installation of the Line 6 low NO_X burner (Table 1). U.S. Steel also included more recent quality parameter data to show that quality continues to remain acceptable. U.S. Steel noted that while compressions have decreased, this has been observed on all process lines, including those without low NO_X burners, thus indicating an issue with the feed material and not the burners. As also shown, U.S. Steel saw an improvement in reducibility for their pellets after the installation, which U.S. Steel attributes to improved heat distribution in the kiln from the low NO_X burner.

TABLE 1—LINE 6 PELLET QUALITY BEFORE AND AFTER THE LOW NO_X BURNER INSTALLATION

(Higher values represent better quality)

	After tumble	Compression	Reducibility	LTD
Before (11/1/10–4/3/11)	96.0	416	1.15	87.30
After (4/20/11–10/31/11)	96.0	417	1.22	85.58
1/1/12–9/1/12	96.2	410	1.22	86.11

2. Fuel Penalty and Energy Penalty

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that a fuel penalty and an energy penalty will result from the operation of low NO_X burner technology at its facilities. Additional fans will be required to increase primary air flow through the furnaces because the cooler air that is injected into the burner to control peak flame temperature must be heated. EPA made an unsupported presumption that low NO_X burners will cause no fuel or energy penalties or other emissions increases at any of the facilities.

Response: EPA disagrees. The installation and use of low NO_X burners is not generally considered to result in an energy penalty because one burner is merely being replaced by another. EPA recognizes that there is an increase in electricity needed for the operation of low NO_X burner fans to assist in movement of air through the system or to heat cooler air that is injected into the burner. These costs can in most cases simply be factored into the cost impacts analysis as they were in this case for both NO_X and SO_2 controls.

EPA believes that a low NO_X burner installation that is properly engineered and optimized for a given process will not result in a fuel or energy penalty. EPA's conclusion is based on the U.S. Steel Minntac Line 6 Low NO_X Main Burner & Facility NO_X Management Final Report (December 1, 2011),[15] which documented that low NO_X burners did not cause fuel penalties or other emission impacts. In addition, EPA consulted with a burner manufacturer and reviewed information provided by U.S. Steel regarding potential fuel impacts potentially associated with the operation of low NO_X burners at a taconite facility.[16] In this correspondence, U.S. Steel Minntac stated that there was a temporary 10.5 percent fuel increase after initial installation of the low NO_X burner on Line 7. However, during the shakedown period, the fuel increase was alleviated by process optimization (there was a learning curve due to the fact that this was the first low NO_X burner installed on an iron ore processing line) and balancing the process airflow. The waste gas fan on Line 7 was running at maximum before the burner installation and with the addition of combustion air, the process efficiency decreased and safety issues were created. To alleviate this condition, the waste gas fan airflow capacity was increased in February 2011 on Line 7 to balance the airflow out of the process. In April 2011, the Line 6 low NO_X burner was installed at U.S. Steel's Minntac facility. After applying what was learned during the shakedown period on Line 7, no increase in process fuel occurred after the installation. U.S. Steel clearly states in its September 19, 2012 email to EPA, ''The end result is there is no increase in process fuel due to the installation of the Line 7 low NO_X burner.'' [17]

In summary, based on available data, EPA believes that with process optimization, proper balancing of process air flows, and proper engineering, Cliffs and ArcelorMittal will be able to achieve similar fuel usage to U.S. Steel and will not incur either a fuel or energy penalty. EPA understands that each company will require a shakedown period similar to that experienced at U.S. Steel and has set the compliance schedules each facility accordingly.

3. Increases in the Emission of Other Pollutants

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that emissions of other pollutants will increase due to the installation of low NO_X burner technology.

Response: EPA has determined that there will be no increases in collateral pollutants due to the installation of low NO_X burner technology. In making this determination, EPA relied on the information supplied by MPCA, U.S. Steel, Coen Company, Inc., and Hatch, as described below.

In a letter dated November 3, 2009 from Coen Company, Inc., Coen stated:

> As we have indicated, the kiln burner that we proposed to supply for the above referenced project will not produce more CO as compared with what is being produced by the existing burner. The reason is: carbon monoxide (CO) is formed from lack of fast mixing of NO and oxidant (O_2) and chemical kinetics of the reaction that is highly dependent on temperature and O_2 concentration. The Coen multi-fuel burner is being designed for higher stoichiometric air (1.00) as compared with the existing burner which has a stoichiometric air of about 0.3 only. Hence, the Coen burner design

[14] Docket # EPA–R05–OAR–2010–0037–0071.

[15] Docket # EPA–R05–OAR–2010–0037–0039.

[16] U.S. Steel email to EPA dated September 19, 2012 (Docket # EPA–R05–OAR–2010–0037–0071).

[17] Docket # EPA–R05–OAR–2010–0037–0071.

promotes a higher amount of premixing of O_2 (oxidant) with fuel to reduce CO production. The flame temperature in both cases is high enough so the oxidation of CO is not kinetically limited. So the new burner design is not kinetically-limited for CO oxidation and the increased premixing in the primary zone will reduce CO emissions.[18]

Similarly, in a letter dated November 6, 2009 from Hatch to U.S. Steel, Hatch stated: ''Since USS Minntac plans to continue using their current fuels, fuel mixes, and fuel firing rates in conjunction with the low NO_X burners, with the exception of NO_X, Hatch does not anticipate any change in the emissions of applicable pollutants. Substantial reduction of NO_X emissions is also anticipated.''[19]

Finally, in a letter to U.S. Steel dated November 20, 2009, Owen Seltz, Engineer, Metallic Mining Section, Industrial Division, MPCA, stated:

> Generally, when a reduction in NO_X emissions from fuel combustion is proposed, the pollutant of concern for potential increase is carbon monoxide (CO). However, due to the design of the proposed low NO_X main burner, CO emissions are not anticipated to increase. Furthermore, as explained in the manufacturers' letters dated November 3, 2009, and November 6, 2009 and submitted to the MPCA in Minntac's November 12, 2009 letter, due to the design and operation of the proposed burner, CO emissions are expected to decrease.[20]

Based on these assurances, EPA is confident that there will be no increases in other pollutants as a result of the installation of low NO_X burner technology as Cliffs claims.

I. Comments Concerning Sulfur Dioxide (SO_2) BART Emission Limits

Commenter: National Parks Conservation Association.

Comment: NPCA commented that the proposed limits for six of the units (at Northshore, ArcelorMittal, and Hibbing) specifically do not apply when burning fuel oil. This loophole undermines the purpose of a BART analysis and contradicts the CAA requirement for BART to be met on a continuous basis. The final determination must include a limit that encompasses the burning of fuel oil at these facilities.

Response: Northshore, ArcelorMittal, and Hibbing are straight-grate indurating furnaces and do not burn coal. The primary fuel at these facilities is natural gas. As a result, these facilities have inherently low SO_2 emissions. Fuel oil is used only as a backup fuel. Due to its limited use, there was insufficient test data to set a corresponding SO_2 emission limit for periods when fuel oil is being burned. EPA set the SO_2 emission limits based on available data. For the straight-grate facilities, data was only available for periods in which the furnaces were combusting natural gas. In order to address this issue, EPA has added a regulatory requirement for affected sources to track their use of fuel oil and the resulting SO_2 emissions. This information will be used as the basis for any restrictions that will need to be added, e.g. sulfur content, on the use of fuel oil. These requirements are contained in §§ 52.1183(k)(4) and 52.1235(b)(2)(7).

Commenter: Michigan Department of Environmental Quality (MDEQ).

Comment: MDEQ commented that it had based its acceptance of Tilden's BART submittal for SO_2 on the lack of visibility impairment due to SO_2 emissions.

Response: In the final rule, EPA is no longer requiring add-on controls at the Tilden facility because Tilden has agreed to switch fuels to natural gas within one year of the effective date of this rule.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA should use the methods proposed by Minnesota to set emission limits, citing the limits the state set for the Hibbing Taconite and ArcelorMittal facilities. Cliffs contended that EPA's proposed SO_2 emission limits are unsupported and arbitrary. Cliffs objected to the limits set by EPA because they appear to be based on results from a single stack test, which represents a snapshot in time. Further, the limits ignore a significant amount of available data and bypass the statistical analysis conducted by MPCA.

Response: In the Agency's review of Minnesota's regional haze SIP supplement, EPA concluded that the limits for taconite facilities proposed by Minnesota do not accurately represent the current level of controls at the facilities. For ArcelorMittal and Hibbing Taconite, Minnesota appears to have set the limit in pounds of SO_2 per long ton (LT) of pellets produced based on a 30-day rolling average, using the Upper Predictive Limit (UPL) approach for normally distributed data. Minnesota did not demonstrate an accurate method to track or record LT of pellets produced. Therefore, the limits proposed by Minnesota are unenforceable. EPA also concluded that the annual testing requirement proposed by the state is insufficient to determine compliance with a limit based on a 30-day rolling average. In this action, EPA is finalizing SO_2 limits for taconite facilities in terms of lbs SO_2/hr based on a 30-day rolling average, which can be easily and accurately measured using the continuous emissions monitoring system (CEMS) required by this rule.

EPA does agree that the UPL approach is an appropriate method for setting the SO_2 limits. However, the available SO_2 emissions data for the taconite sources generally do not follow a normal, logarithmic, or gamma distribution. For this reason, the UPL should be determined using a nonparametric method, as set forth below. EPA used available stack test and CEMS data from 1990 to the present to recalculate the SO_2 limits for ArcelorMittal and Hibbing, based on the appropriate UPL equation for nonparametric data, in terms of lbs SO_2/hr on a 30-day rolling average as follows:

$UPL = x_m$ and $m = (n + 1)^*(1 - a)$

Where:

x_m = value of the mth data point, when the data is sorted smallest to largest
m = the rank of the ordered data point, when data is sorted smallest to largest
n = number of data points
a = 95th percentile or 0.95

If m is not a whole number, a linear interpolation is calculated from the following equation:

$$UPL = x_m = x_{m_i.m_d} = x_{m_i} + 0.m_d\left(x_{m_i+1} - x_{m_i}\right)$$

Where:

m_i = the integer portion of m, i.e., m truncated at zero decimal places, and
m_d = the decimal portion of m

In this final rule, EPA is setting a limit of 38.16 lbs SO_2/hr for indurating furnace EU026 at ArcelorMittal. This limit must be measured on a 30-day rolling average and does not apply when the subject unit is burning fuel oil. For Hibbing, EPA is finalizing an aggregate limit of 247.8 lbs SO_2/hr based on a limit of 82.60 lbs SO_2/hr for each of the three affected lines: EU020, EU021, and

[18] Docket # EPA–R05–OAR–2010–0037–0071.

[19] Docket # EPA–R05–OAR–2010–0037–0071.

[20] Docket # EPA–R05–OAR–2010–0037–0071.

EU022. This limit is also measured on a 30-day rolling average and does not apply when the subject unit is burning fuel oil.

Because of limited stack test data for Hibbing and ArcelorMittal, these sources may, within 20 months of the effective date of this rule, calculate a revised SO_2 limit based on one year of hourly CEMS data, reported in lbs SO_2/hr, and submit such limit, calculations, and CEMS data to EPA. This limit shall be set in terms of lbs SO_2/hr, based on the non-parametric UPL equations set forth above, with compliance to be determined on a 30-day rolling average.

Commenter: Cliffs Natural Resources.

Comment: Cliffs submitted alternate SO_2 limits for Hibbing based on the UPL equation for normally distributed data.

Response: While EPA agrees that the UPL approach is the appropriate method for setting the SO_2 limits, EPA disagrees with the alternate SO_2 limits submitted by the Cliffs for the Hibbing facility. Cliffs did not specify whether its suggested limit was daily, instantaneous, or on a 30-day rolling average. But in any case, the limit submitted by Cliffs for Hibbing appears to be calculated using the UPL equation for normally distributed data, a p-value of 0.01 (which would represent a 99.5 percent confidence interval) and m = 1. This is incorrect. According to the UPL method, m represents the number of future runs (i.e., the number of future data points). As the data sets being used in the analyses are one-hour CEMS averages, the value of m should be 720 (30 days times 24 hours) if the limit being set is a 30-day rolling average. Even if compliance is based on the average value of an annual performance test rather than a 30-day rolling average, Minnesota's annual performance testing requires 30 hourly data points, which would result in a value of 30 for *m.* Cliffs also appears to have combined all stacks for each line and averaged all test runs for each set of test data to arrive at one data point for each set of test data, resulting in only 10 data points rather than 720 to calculate the UPL.

In addition, although the raw test data provided SO_2 emissions levels in terms of lbs SO_2/hr, Cliffs calculated the UPL in terms of lbs SO_2/LT pellets and then converted the SO_2 limit back into lbs SO_2/hr by using the maximum design capacity of each line rather than the actual production data collected during testing.

Thus, EPA disagrees with this methodology. The alternate emission limit proposed by Cliffs is significantly higher than the limit that would result from the correct application of the UPL equation for normally distributed data. Further, some of the available data for the Hibbing facility are normally distributed, while other data are not. As noted previously, the available SO_2 emissions data for the taconite industry in general do not follow a normal, logarithmic, or gamma distribution. For this reason, EPA is using the nonparametric UPL equation to calculate the SO_2 emission limits.

Commenter: Cliffs Natural Resources.

Comment: Cliffs objected to the proposed 80 percent SO_2 reduction requirement for Northshore, noting that an SO_2 emission limit was also set for the facility. Cliffs contended that EPA failed to cite any justification for the requirement and failed to explain why an 80 percent reduction in SO_2 emissions should be required for Northshore when a similar reduction was not required for any other facility. Cliffs asserted that Northshore's SO_2 emissions have a de minimis impact on visibility, so imposing multiple layers of control requirements would be arbitrary and unnecessary.

Response: Northshore is subject to BART based on the visibility impacts that were described in the proposal rule. The document entitled ''Northshore Mining Company Analysis of Best Available Retrofit Technology (BART)'' submitted to MPCA on behalf of Northshore Mining states that ''WWESPs are currently in place on the furnace exhausts and are believed to remove 80 to 95 percent of the SO_2 in the exhaust.'' [21] Thus, 80 percent is on the low end of the removal efficiency range estimated by Northshore, not an arbitrary number selected by EPA. Further, in a CAA section 114 request to Cliffs and Northshore Mining, EPA requested copies of all stack tests conducted on any emissions unit for any reason, including all test runs, even if a full test series was not completed. In its response to EPA, Cliffs did not provide any SO_2 test data for the subject-to-BART furnaces at Northshore. Without this emissions data, EPA believes using Northshore Mining's prior estimate of 80 to 95 percent control efficiency on its furnace exhausts EPA to impose an 80 percent emissions reduction requirement on stacks SV101, SV102, SV103, SV104, SV105, SV111, SV112, SV113, SV114, and SV115 was appropriate.

Subsequent to the public comment period, Cliffs provided EPA with limited SO_2 emissions data for Northshore and proposed an aggregate limit of 39.0 lbs SO_2/hr based on a limit of 19.5 lbs SO_2/hr per line. Cliffs' proposed limit is slightly higher than the limit EPA calculated using the new data and the UPL equation for nonparametric data. However, EPA believes it is reasonable to set an aggregate limit of 39.0 lbs SO_2/hr, measured on a 30-day rolling average, and to require the source to recalculate this limit when CEMS data are available.

As stated previously, this limit does not apply when the facility is burning fuel oil. In order to address this issue, EPA has added a regulatory requirement for affected sources to track their use of fuel oil and the resulting SO_2 emissions. This information will be used as the basis for any restrictions that will need to be added, e.g. sulfur content, on the use of fuel oil. These requirements are contained in sections 52.1183(k)(4) and 52.1235(b)(2)(7).

In summary, this final rule establishes an aggregate SO_2 emission limit of 39.0 lbs SO_2/hour, measured on a 30-day rolling average, for Furnace 11 and Furnace 12 at Northshore. Within 20 months of the effective date of this rule, the owner or operator must calculate a revised SO_2 limit based on one year of hourly CEMS emissions data reported in lbs SO_2/hr and submit such limit, calculations, and data to EPA. This limit shall be set in terms of lbs SO_2/hr, based on the non-parametric UPL equations previously set forth by EPA, with compliance to be determined on a 30-day rolling average. EPA agrees with the commenter that an 80 percent reduction requirement is no longer needed because it is redundant in light of the final lbs SO_2/hr emission limit. Consequently, this final rule does not require an additional 80 percent emissions reduction requirement at Northshore.

Commenter: National Park Service and Cliffs Natural Resources.

Comment: NPS supported EPA's proposal to require FGD as BART for SO_2 at the United Taconite and Tilden facilities, agreeing with EPA's cost-effectiveness calculations.

Cliffs, on the other hand, disagreed with EPA's cost-effectiveness calculations for the United Taconite and Tilden facilities. Subsequent to the public comment period, Cliffs proposed switching fuels as an alternative to installing FGD scrubbers. Cliffs proposed a combined limit of 529 lbs SO_2/hr for Lines 1 and 2 at the United Taconite facility, with compliance to be determined on a 30-day rolling average, beginning in 54 months. To meet this limit, the United Taconite furnaces will burn low-sulfur fuels, including increased use of natural gas. For Tilden, Cliffs proposed switching operation to

[21] Docket # EPA–R05–OAR–2010–0037–0034 (p. 24).

100 percent natural gas within 12 months with an emissions limit to be set after a year of CEMS data become available.

Response: Subsequent to the proposed rule, Cliffs has agreed to a federally enforceable aggregate emission limit of 529 lbs SO_2/hr, based on a 30-day rolling average, at United Taconite, based on the use of low-sulfur fuels. Cliffs has also agreed to convert to the use of 100 percent natural gas at Tilden. Because Tilden will now be restricted to the use of 100 percent natural gas, requiring the installation of SO_2 controls is no longer economically feasible or necessary. Similarly, in light of the reduction in SO_2 emissions that will result from the use of low-sulfur fuels at United Taconite, the cost effectiveness of additional controls has increased to $12,021 per ton for Line 1 and $7,680 per ton for Line 2. Thus, EPA believes that the installation of such controls is no longer economically feasible. In addition to the emission limit proposed by Cliffs, to ensure the use of low-sulfur fuels and SO_2 reductions resulting from the use of low-sulfur fuels at United Taconite, EPA is also requiring that the facility burn either natural gas or a blend of natural gas and coal. EPA is also establishing a limitation on the coal to be used by requiring the coal have a sulfur content no greater than 0.60 percent sulfur by weight based on a monthly block average. The requirement for a sampling and calculation methodology for determining this value is contained within the monitoring plan as required in section 52.1235(e)(8)(x). In summary, EPA is no longer requiring FGD at United Taconite and Tilden as BART for SO_2 in this final rule.

Commenter: U.S. Steel.

Comment: U.S. Steel proposed several alternate lbs SO_2/hr limits for its Minntac facility. These limits were calculated by applying a 99 percent confidence interval utilizing three years of CEMS data. U.S. Steel also proposed alternate limits for producing flux versus acid pellets due to scrubber inefficiencies during acid pellet production.

U.S. Steel proposed, as its first choice, an aggregate limit of 498 lbs SO_2/hr, on a 30-day rolling average, when all five lines are producing flux pellets; an aggregate limit of 630 lbs SO_2/hr, on a 30-day rolling average, when Lines 3–5 are producing acid pellets and Lines 6 and 7 are producing flux pellets; and an aggregate limit of 800 lbs SO_2/hr, on a 30-day rolling average, when all five lines are producing acid pellets. U.S. steel also proposed partially aggregated limits and line-by-line limits for acid pellets and flux pellets. Finally, U.S. Steel proposed that the limit for acid pellets be in effect during acid production and for 30 days thereafter due to the 30-day rolling average.

Response: EPA compared the limits proposed by U.S. Steel to the limit EPA calculated with the non-parametric UPL method and found them to be comparable. EPA also agrees with the need for a higher limit for acid pellet production.

Therefore, in this final rule, the SO_2 emission limits for U.S. Steel's Minntac facility are 498 lbs SO_2/hr on Lines 3–7 when all lines are producing flux pellets; 630 lbs SO_2/hr when Lines 3–5 are producing acid pellets and Lines 6 and 7 are producing flux pellets; and 800 lbs SO_2/hr on Lines 3–7 when all lines are producing acid pellets. All limits are calculated on a 30-day rolling average.

However, EPA does not agree that the limit for acid pellets should apply during acid production and for 30 days thereafter and thus has not made this change in the final rule. The emission limit for a given 30-day rolling average period will be calculated using a weighted average as follows:

$$L_{30} = \frac{498n_f + 630n_{af} + 800n_a}{30}$$

Where:

L_{30} = the limit for a given 30-day averaging period

n_f = the number of days in the 30-day period that the facility is producing flux pellets on Lines 3–7

n_{af} = the number of days in the 30-day period that the facility is producing acid pellets on Lines 3–5 and flux pellets on Lines 6 and 7

n_a = the number of days in the 30-day period that the facility is producing acid pellets on Lines 3–7

Commenter: U.S. Steel and Cliffs Natural Resources.

Comment: Cliffs and U.S. Steel commented that it is inappropriate to use a seven percent oxygen correction for emission limits that are not concentration based.

Response: EPA agrees with the commenters that the use of a seven percent oxygen correction is not necessary when the subject-to-BART facilities elect to comply with an emission limit measured in pounds of pollutant per million British thermal units or pounds of pollutant per hour.

Commenter: U.S. Steel.

Comment: U.S. Steel requested that the pH and SO_2 removal efficiency limits for its Keetac facility be deleted because they are redundant with the lbs SO_2/hr limit.

Response: EPA agrees with U.S. Steel and has deleted the pH and SO_2 removal efficiency limits from the final rule.

Commenter: Leech Lake Band of Ojibwe.

Comment: At United Taconite and Tilden, limiting SO_2 to 5 parts per million by volume or requiring the facilities to meet a 95 percent reduction requirement, on a 30-day rolling average, using dry FGD is achievable and cost-effective.

Commenter: Red Cliff Band of Lake Superior Chippewas.

Comment: The Red Cliff Band supported EPA's proposed requirement for additional SO_2 controls in select facilities.

Commenter: National Tribal Air Association.

Comment: The Association agreed with using existing SO_2 controls for those taconite facilities where it would be cost prohibitive to convert to a different technology that would only achieve nominal SO_2 reductions. However, in the case of the United Taconite and Tilden facilities, the Association found it relatively inexpensive to use dry FGD to limit SO_2 to 5 parts per million by volume or to meet a 95 percent reduction requirement on a 30-day rolling average.

Commenter: National Park Service.

Comment: NPS supported EPA's proposal to require FGD as BART for SO_2 at the United Taconite and Tilden facilities, agreeing with EPA's cost effectiveness calculations and compliance schedule.

Response: EPA agrees with the commenters that under current operating conditions, FGD is a cost-effective control option for the grate-kiln furnaces at United Taconite and Tilden and represents BART. However, subsequent to the public comment period, Cliffs proposed switching fuels as an alternative to installing FGD scrubbers. Cliffs has since agreed to federally enforceable limits on the types of fuels that may be burned at these facilities. In this final rule, the United Taconite furnaces must burn a combination of natural gas and low-sulfur coal and Tilden will now burn 100 percent natural gas. Given these changes, EPA has determined that requiring the installation of SO_2 controls is no longer economically feasible or necessary.

J. Comments Concerning the Visibility Analysis and Visibility Impacts

Commenter: Fond du Lac Band of Lake Superior Chippewa.

Comment: Tables V–C.l0 to V–C.l5 of the FIP demonstrate the changes in visibility that could be expected from the use of low NO_X burners. While these are only predictions, the expected improvements in visibility in the

Boundary Waters Canoe and Wilderness Area, Voyageurs National Park, and Isle Royale National Park strongly support the use of this technology at the subject-to-BART taconite plants.

Response: EPA agrees that the BART emission limits have the potential to result in significant improvement in visibility at the affected Class I areas.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA did not conduct a proper analysis of visibility impacts.

Response: EPA disagrees. EPA's visibility estimates provide ample evidence that the visibility impacts of each subject-to-BART taconite facility are substantial enough to warrant the selected BART controls. EPA's responses to the individual criticisms raised by the commenters on our visibility analysis are discussed in further detail below.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that the proposed rule directly contravened the instructions given to EPA in *American Corn Growers* v. *EPA.* In particular, Cliffs asserted that EPA's method is a ''bifurcated'' approach to visibility that was rejected in that decision. In Cliffs' view, the *American Corn Growers* court rejected a bifurcated approach in which visibility impacts are treated differently than the other four BART factors. Cliffs noted that for each taconite source, EPA separated its analysis into two distinct sections. Section V.B. of the proposed rule analyzed the first four factors, while EPA separately analyzed visibility improvement in Section V.C. for whichever technology emerged from the four-factor analysis in Section V.B. Thus, in Cliffs' view, the real-world visibility impacts were, at most, a secondary consideration that could not have influenced the evaluation of BART alternatives.

Response: EPA disagrees. The ''bifurcation'' referred to in the *American Corn Growers* decision related to EPA's use of a regional, multi-source, group approach to determining the degree of visibility improvement, while analyzing the other four statutory factors on a source-specific basis. The *American Corn Growers* court held that the visibility analysis must not be treated differently and must be a source-specific analysis. Since that decision, EPA and states have consistently conducted the visibility prong of the five-factor analysis on a source-specific basis. In this instance, although EPA presented its visibility analysis in a separate section of the proposed rule, the Agency conducted the analysis on a source-specific basis consistent with the holding in *American Corn Growers.*

EPA also disagrees that visibility was a secondary consideration in its analysis. EPA's analysis shows that based on the all of the BART factors, including visibility, the selected controls are warranted. If highly reasonable and cost-effective controls had been available but visibility benefits were slight, EPA would have rejected those controls. Section V.B. of the proposed rule demonstrated that reasonable and cost-effective controls were available. Section V.C. then showed that the visibility benefits to be obtained by requiring controls at each source were significant. Site-specific visibility improvement estimates for each source, derived from regional modeling conducted by the state of Minnesota on a variety of sources in the area, demonstrated that the significant reductions EPA proposed will produce significant visibility improvement in affected Class I areas.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that the approach EPA used in the proposed rule to estimate visibility impacts was arbitrary because it was not site-specific. Rather than extrapolating results from other facilities, EPA should have conducted modeling for the specific sources being regulated. The BART Guidelines instruct EPA to conduct modeling using CALPUFF or other appropriate dispersion models for each source and highlight the importance of source-specific features, such as stack flow rate and release height. EPA's use of ''visibility impact ratios'' derived from other sources is not consistent with EPA's own guidelines and provides results that are too unreliable for the purpose of a BART visibility analysis. In using the visibility impact ratio approach, EPA is holding itself to a lower standard than it would expect from a state air quality agency conducting a similar BART review.

Response: EPA's proposed rule acknowledged that there is greater uncertainty associated with the visibility impact ratio approach. Nonetheless, EPA finds this approach to be consistent the BART Guidelines allowance for ''appropriate'' models and believes the approach provides adequate indication of the visibility benefits of the evaluated controls.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA's visibility analysis was inconsistent with the statutory obligation to consider the degree of visibility improvement that is ''reasonably anticipated.'' In Cliffs' view, the use of ''possible'' impacts from an approach extrapolated from other facilities does not satisfy this statutory requirement to consider ''reasonably anticipated'' visibility impacts. In support of this view, Cliffs noted that EPA extrapolated visibility results from facilities other than taconite plants, such as an electric generating unit. Moreover, Cliffs found EPA's use of sources in the ''general area'' as unacceptable for the visibility analysis given that wind conditions would affect the taconite facilities differently than the facilities EPA relied upon. Additionally, the commenter noted differences in stack conditions between the taconite facilities being regulated and the sources that EPA relied upon.

Response: EPA's proposed rule acknowledged the uncertainty associated with the visibility impact ratio approach, but noted that despite the uncertainties, the Agency was confident that the information was adequate to assess potential visibility improvements due to emissions reductions at the specific facilities. While the results obtained from this approach are not expected to be as precise as source-specific CALPUFF modeling, they are based on visibility improvements derived from existing regional scale modeling that was conducted on sources in and around the northern Minnesota area. Given the geographic proximity of the taconite facilities to those that were modeled, EPA believes that the ratio approach provided adequate assurance of the visibility improvements that can be expected from the proposed emission reductions.

The results EPA obtained from its analysis are presented in terms of deciview (DV) change and change in the number of days above the 0.5 DV threshold. In the proposed rule's summary of the impacts at Boundary Waters, Voyageurs, and Isle Royale, these values ranged from 1.3 to 7.1 DVs of improvement with between 17 and 93 fewer days above the 0.5 DV threshold. Therefore, even if the ratio approach was over-estimating visibility improvements by a factor of two or three, the expected benefits would still be significant.

For example, Cliffs submitted CALPUFF modeling that showed the visibility improvements expected from the proposed rule for two of the seven facilities—United Taconite and Tilden. This modeling was only performed at the most impacted of the four affected Class I areas. EPA also notes that these were the only facilities for which new

scrubbers were proposed as BART for SO_2.

The results of the Cliffs' modeling for United Taconite and Tilden are presented below. The first delta DV value is the subtraction of the two 98th percentile impacts (base minus FIP).

TABLE 2—UNITED TACONITE PREDICTED VISIBILITY RESULTS FOR THE MOST IMPACTED AREAS

Scenario/year	Boundary Waters days over 0.5 DV	Boundary waters 98th percentile delta DV	Voyageurs days over 0.5 DV	Voyageurs 98th percentile delta DV
Difference/2002	36	0.594	17	0.454
Difference/2003	39	0.579	14	0.649
Difference/2004	33	0.545	17	0.439

TABLE 3—TILDEN PREDICTED VISIBILITY RESULTS FOR THE MOST IMPACTED AREAS

Scenario/year	Isle Days over 0.5 DV	Isle 98th percentile delta DV	Seney days over 0.5 DV	Seney 98th percentile delta DV
Difference/2002	2	0.099	3	0.146
Difference/2003	8	0.160	3	0.099
Difference/2004	2	0.112	2	0.125

The baseline emissions associated with the runs above totaled approximately 3,344 tons per year of SO_2 and 3,129 tons per year of NO_X for United Taconite, and approximately 1,563 tons per year of SO_2 and 2928 tons per year of NO_X for Tilden. The post-control emissions totaled approximately 233 tons per year of SO_2 and 2,435 tons per year of NO_X for United Taconite, and approximately 174 tons per year of SO_2 and 2,414 tons per year of NO_X for Tilden. The United Taconite emissions were based on CEMS data collected under a 100-percent coal-firing scenario, while Tilden emissions were based on stack test information collected under a primarily coal-firing scenario.

EPA believes that Cliffs' modeled baseline emission rates are low based on previous BART modeling and figures from the proposed rule. Expected post-control emissions reductions also appear to be underestimated. The proposed rule identified baseline emissions of approximately 5,330 tons per year for NO_X and 4,043 tons per year for SO_2 for United Taconite, and approximately 1,153 tons per year of SO_2 and 4,613 tons per year of NO_X for Tilden. The BART Guidelines recommend that sources use the highest 24-hour average actual emission rate, for the most recent three or five year period of meteorological data, to characterize the maximum potential benefit. By using a low baseline emission rate, Cliffs' modeling underestimates the emissions reductions that will be achieved by the installation of BART controls and the resulting visibility improvements. However, even though the overall SO_2 and NO_X reductions modeled by Cliffs were over 50 percent lower than the reductions projected in the proposed rule,[22] the results still showed significant visibility improvement at the Boundary Waters. Consequently, EPA believes that Cliffs' modeling provides further evidence that the visibility improvements predicted by the ratio approach are reasonable.

Using the CALPUFF model input and meteorological data files submitted by Cliffs, EPA, with substantial assistance from the National Park Service, re-ran the baseline and control-case scenarios for United Taconite and Tilden with data from the proposed rule. For United Taconite, the baseline emissions of SO_2 and NO_X reflect the emissions presented in the proposed rule. The United Taconite control emissions for NO_X were based on a 1.2 lbs NO_X/MMBtu emission limit and heat inputs of 200 MMBtu/hr for line 1 and 260 MMBtu/hr for line 2. The United Taconite control emissions for SO_2 were based on an approximate 94-percent reduction from the base case.[23] For Tilden, the baseline emissions for both visibility pollutants were also based on those contained in the proposed rule. The Tilden control emissions for NO_X were based on a conversion to 100 percent natural gas, with an 80 percent reduction from the baseline for SO_2 and a 65 percent reduction for NO_X. The results of this modeling are shown below, but only for the most impacted Class I area.

TABLE 4—EPA MODELING—UNITED TACONITE PREDICTED VISIBILITY RESULTS FOR THE MOST IMPACTED AREA

Scenario/year	Boundary Waters days over 0.5 DV	Boundary Waters 98th percentile delta DV
Difference/2002	80	1.316
Difference/2003	71	1.223
Difference/2004	62	1.358

TABLE 5—EPA MODELING—TILDEN PREDICTED VISIBILITY RESULTS FOR THE MOST IMPACTED AREA

Scenario/year	Seney days over 0.5 DV	Seney 98th percentile delta DV
Difference/2002	0	0.320
Difference/2003	0	0.206
Difference/2004	1	0.165

Again, EPA's CALPUFF modeling shows significant visibility improvement can be expected due to the installation of BART controls at United Taconite and Tilden. EPA believes that these results lend additional support to the accuracy of the visibility analysis that was performed for all facilities in the proposed rule. EPA stands by the results of its ratio approach and believes that it produced reasonable results for the sources examined.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

[22] This 50 percent discrepancy applies to United Taconite.

[23] EPA notes that the control emissions for SO_2 at United Taconite differ between those modeled and those that will be achieved based on the final rule because EPA is no longer requiring FGD as a result of the switch to low-sulfur fuels at the facility. This change will result in higher controlled emissions and would be expected to lower the visibility improvements demonstrated in the model slightly.

Comment: Cliffs commented that the proposed rule failed to properly integrate the visibility analysis with cost considerations and that EPA should have identified the costs of controls relative to the visibility improvement using a $/DV metric. In support of this view, Cliffs provided data showing that the costs per DV improvement are very high at two of its facilities: $65 million per DV at United Taconite and $140 million per DV at Tilden. Finally, Cliffs noted that FLMs have cited a threshold of $20 million per DV in correspondence with states, and that any figure beyond this threshold constitutes excessively high costs for the degree of visibility improvement achieved.

Response: EPA disagrees that a cost per DV analysis was required. The BART Guidelines do not require EPA or the states to conduct such an analysis when evaluating the visibility improvement factor. While the BART Guidelines suggest cost per DV as a possible parameter for consideration, its use is entirely discretionary. There are numerous examples of BART analyses conducted by states and EPA that have not calculated this metric.

Moreover, EPA believes that Cliffs' comment underestimates the visibility impacts from the two facilities that were modeled, leading to erroneous cost per DV figures. As was explained in detail in the response to the previous comment, Cliffs substantially underestimated the baseline emission rates at United Taconite and Tilden, which in turn resulted in emissions reduction estimates that are also too low. The BART Guidelines recommend that the highest 24-hour average actual emission rate, for the most recent three or five-year period of meteorological data, be used to calculate the maximum potential benefit. Overall, the emissions reductions predicted by Cliffs' modeling analysis were less than 50 percent of the emissions reductions projected by EPA for United Taconite.

Finally, Cliffs' reference to the $20 million per DV threshold is misleading. The FLMs recommend that cost per DV be calculated cumulatively to include improvements at all affected Class I areas. Cliffs' analysis, on the other hand, only included visibility improvement at a single Class I area, thereby inflating its total cost per DV figures.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that NO_X-related visibility improvements should be discounted because nitrate visibility impacts peak in the winter and winter-time visitation at the affected Class I areas is significantly less than during other times of the year. Cliffs noted that the BART Guidelines allow for consideration as to whether impacts occur ''during the tourist season.''

Response: EPA agrees that nitrate impacts are more dominant in the winter. Nonetheless, daily nitrate impacts from April through October are not trivial. EPA also agrees that the BART Guidelines allow states to consider the timing of impacts in addition to other factors related to visibility impairment. However, states are not required to do so, and to our knowledge, neither Michigan nor Minnesota did so in their visibility analyses. EPA is not required to substitute a source's desired exercise of discretion for that of the states. Furthermore, when promulgating a FIP, EPA stands in the shoes of the state. In that capacity, EPA is not required to consider the seasonality of impacts and has chosen not to do so here. Taking into account visitation contradicts the goal of the regional haze rule of improving visibility on the 20 percent best and worst days. Indeed, EPA believes that the experiences of visitors who come to Class I areas during periods other than the peak visitation season are important and should not be discounted.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs cited a number of other flaws in EPA's overall approach to visibility that it believed led to unreliable or overstated impacts from the taconite facilities. First, Cliffs asserted that EPA used natural visibility conditions that were ''too clear, excluding conditions such as fires, which had the effect of overstating the impacts of the facilities modeled relative to natural conditions. Second, Cliffs asserted that the chemistry in the current EPA-approved version of CALPUFF, as well as regional photochemical models such as CAMx, overestimates the impact of NO_X emissions on visibility impairment. Cliffs argued that this is especially true for winter nitrate haze due to the models' static predictions of ammonia background concentrations that should vary seasonally to be in line with monitored observations. As a result, Cliffs concluded that the NO_X emission reductions that will accompany the installation of BART are being improperly credited with visibility improvements that will not occur in the Minnesota and Michigan Class I areas. Finally, Cliffs cited real-world monitor studies as evidence that large sources that curtailed or shut down operations had little effect on visibility monitors. The first of these studies evaluated the changes in visibility monitoring at the Boundary Waters during periods of low operation at the taconite facilities during 2009. The second study evaluated changes in visibility monitoring at the Grand Canyon after shutdown of the Mohave Power Plant.

Response: EPA disagrees with these purported flaws in our approach, many of which have been raised in the context of other states' BART determinations. Regarding the issue of natural background conditions, similar issues were addressed in EPA's action on the North Dakota regional haze SIP (77 FR 20909, April 6, 2012). EPA recognizes that variability in natural sources of visibility impairment cause variability in natural haze levels as described in the Agency's ''Guidance for Estimating Natural Visibility Conditions under the Regional Haze Rule.'' [24] Progress toward natural visibility in Class I areas includes improvement toward natural conditions for the 20 percent worst days and no degradation of visibility on the 20 percent best days. The use of the 20 percent worst days in the calculation of the uniform rate of progress takes into consideration visibility impairment from wild fires, windblown dust, and other natural sources of haze. For the evaluation of visibility impacts for BART sources, however, EPA recommends using the natural visibility baseline for the 20 percent best days for comparison to the ''cause or contribute'' applicability thresholds. This estimated baseline is reasonably conservative and consistent with the goal of attaining natural visibility conditions. While EPA recognizes that there are natural sources of haze, the use of the 20 percent worst days is inappropriate for the ''cause or contribute'' applicability thresholds. For example, if visibility impacts were evaluated in comparison to days with very poor natural visibility resulting from nearby wild fires or dust storms, the impacts of BART sources would be significantly reduced relative to these

[24] Guidance for Estimating Natural Visibility Conditions Under the Regional Haze Rule, U.S. Environmental Protection Agency (September 2003), available at *http://www.epa.gov/ttncaaa1/t1/memoranda/rh_envcurhr_gd.pdf.* ''Natural visibility conditions represent the long-term degree of visibility that is estimated to exist in a given mandatory Federal Class I area in the absence of human-caused impairment. It is recognized that natural visibility conditions are not constant, but rather they vary with changing natural processes (e.g., windblown dust, fire, volcanic activity, biogenic emissions). Specific natural events can lead to high short-term concentrations of particulate matter and its precursors. However, for the purpose of this guidance and implementation of the regional haze program, natural visibility conditions represents a long-term average condition analogous to the 5-year average best- and worst-day conditions that are tracked under the regional haze program.'' Guidance at 1–1.

poor natural visibility conditions and would not be protective of natural visibility on the 20 percent best days.[25]

In regards to Cliffs' comment on atmospheric chemistry, the approach used by EPA in the proposed rule relied on regional-scale modeling conducted by MPCA where ammonia values varied temporally and spatially. This is in contrast to the approach used in the CALPUFF modeling submitted by Cliffs where a constant 1 ppb monthly average ammonia value was used. While ammonia data is not available for the vicinity of the sources of interest, data is available for sites located in the Class I areas (Fernberg, MN) as well as for sites to the south more representative of northern Wisconsin and southern Minnesota.[26] The available Fernberg ammonia data includes several years of information and has an overall two-week average value of about 0.5 ppb with several two-week periods over 1 ppb. The Perkinstown site located in northern Wisconsin is in an area combining forest, grassland, and agricultural uses and has an overall two-week average ammonia concentration of about 1.5 ppb with several two-week periods over 1.5 ppb. Consequently, the value of 1 ppb used in the modeling submitted by Cliffs is most likely representative of the ammonia concentration in the vicinity of the sources of interest. However, EPA again reiterates that Cliffs' largely baseless criticism of CALPUFF does not apply to the Agency's ratio approach, which relied on regional-scale modeling conducted by the states that included temporal and spatial variations in ammonia concentrations.

Finally, regarding Cliffs' comment concerning the two monitoring studies, EPA does not find either of the studies to be persuasive with respect to the impacts of taconite sources on visibility. The first study asserts that the 2009 decline in taconite production and a negligible change in visibility are evidence that further controls are not warranted. EPA believes that that it is very difficult to discern any effect from a one-year study and points out that the production decline (as shown in Table 6 below) occurred during the spring and summer, seasons for which Cliffs recognized that nitrate formation is less important.

TABLE 6—MINNESOTA 2009 PELLET PRODUCTION BY MONTH

[Tons][27]

Month	Pellet production (tons)
January	2,205,578
February	1,900,003
March	1,620,343
April	958,479
May	181,739
June	340,707
July	849,363
August	1,158,447
September	1,723,336
October	2,008,864
November	2,038,844
December	2,093,403

The second study Cliffs cited, which reviewed visibility monitoring before and after the shutdown of the Mohave Power Plant in Nevada, is a paper by Terhorst and Berkman (Atmospheric Environment, 2010). This paper was subsequently examined and commented on in a paper by White et al. (Atmospheric Environment, January 2012). There, White et al. state: ''[Terhorst and Berkman]'s technical analysis is thoughtfully conceived and executed, but is misleadingly presented as discrediting previous studies and their interpretation by regulators. In reality the Terhorste Berkman analysis validates a consensus on MPP's (Mohave Power Project) visibility impact that was established years before its closure, in a collaborative assessment undertaken jointly by Federal regulators and MPP's owners.'' Additionally, EPA has responded to similar comments regarding the Mohave Power Project study and EPA's visibility modeling in our action on the North Dakota regional haze SIP (77 FR 20894, April 6, 2012).[28]

Finally, EPA believes that Cliffs, while identifying purported areas where EPA's models exaggerate visibility impacts, overlooks that there are aspects of the models that have been suggested by commenters on our regional haze actions as under-predicting impacts. Some examples include use of 24-hour average emissions impacts. Some examples include use of 24-hour average emissions rather than hourly emissions, use of monthly average relative humidity rather than daily humidity, and use of 98th percentile results to compare to the threshold instead of the highest day.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that certain control options should be rejected because visibility modeling does not indicate the installation of controls will result in a perceptible visibility improvement.

Response: EPA's disagrees. As explained in the proposed rule, EPA believes that the application of BART will result in perceptible improvements in visibility. Nonetheless, the perceptibility of visibility improvement is not a prerequisite to the selection of a control option as BART. The preamble to the BART Guidelines state, ''Even though the visibility improvement from an individual source may not be perceptible, it should still be considered in setting BART because the contribution to haze may be significant relative to other source contributions in the Class I area. Thus, we disagree that the degree of improvement should be contingent upon perceptibility'' (70 FR 39104, 39129, July 6, 2005).

Minnesota's regional haze SIP described the importance of the contribution of sources in northeastern Minnesota to visibility impairment in the Boundary Waters and Voyageurs national parks. Accordingly, Minnesota developed a special plan for the northeast region of the state. Minnesota explained:

This area was targeted for controls under the long-term strategy for several reasons. First, the MPCA's analysis of 2002 emissions from the top 18 emitting point sources within Minnesota show that sources from this region make up just ⅓ of the total emissions but provide ⅔ of the total visibility impact. (See Chapter 8, on modeling.) Therefore, they have a much larger impact on the Class I areas than emissions from farther away. In addition, the taconite facilities may be currently uncontrolled or under-controlled for SO_2 or NO_X, and on the books control strategies are projected to cause fewer

[25] As part of the settlement of a case brought by the Utility Air Regulatory Group challenging the BART Guidelines, EPA agreed to issue guidance clarifying that states may use either the 20 percent best days or the annual average in estimating natural visibility in the evaluation of a BART source's impacts. This guidance makes clear that states have the flexibility to use either approach in estimating natural background conditions. Here, the states were not required to use the annual average and did not. Similarly, in issuing a FIP, EPA is not required to use the annual average either and chose not to in this case.

[26] National Atmospheric Deposition Program, *http://nadp.sws.uiuc.edu/AMoN/sites/data/*.

[27] Source: Minnesota Department of Revenue, Minerals Tax Division, Eveleth, MN.

[28] There, EPA stated: ''In addition, the study by Terhorst and Berkman does not convince us that use of CALPUFF modeling is inappropriate for this action or that the CALPUFF modeling results should be ignored. A model such as CALPUFF essentially holds constant a number of factors in order to isolate the impacts of a single source. As acknowledged by the study's authors, it is extremely difficult in observational analyses to sufficiently control for all factors, including emissions from other sources, to be able to isolate the impacts of closure of a facility, especially one located over 100 km from the Class I area at issue. In fact, the paper notes that coarse soil mass impacts are an omitted variable in the analytical analysis and that changes in those emissions may have counteracted the visibility improvements expected from the source shutdown'' (77 FR 20894, 20910).

emission decreases in this region than in the remainder of the state.[29]

Thus, Minnesota's assessment supports the determination that taconite facilities contribute to regional haze even if individual impacts are modeled below thresholds for human perceptibility.

K. Comments Concerning Requirements for Continuous Emissions Monitoring

1. Comments in Support of Continuous Emissions Monitoring Requirements

Commenter: National Parks Conservation Association.

Comment: EPA's proposed rule includes the use of CEMS as a part of the monitoring, recordkeeping, and reporting necessary to ensure the continuous application of BART. Such monitors provide more accurate data about the emissions from taconite facilities than previous methods. As such, they are essential for tracking emissions and determining their impact on the surrounding communities. Moreover, CEMS can be used as pollution control tools by helping to fine-tune combustion and process controls in a way that periodic stack tests and predictive monitoring cannot. As such, we fully support the required application of CEMS on these sources.

Commenter: National Park Service.

Comment: NPS is especially pleased that EPA has proposed testing and CEMS requirements for the subject taconite plants. Our discussions with U.S. Steel, which has led the way in installation and operation of CEMS on indurating furnaces, have led to the mutual agreement that CEMS data is essential for the proper tuning and operation of combustion controls to reduce NO_X emissions. Minnesota's regional haze SIP discussed the need for requiring CEMS for the taconite industry to monitor NO_X for a number of reasons. These included setting BART limits, allowing facilities to efficiently manage combustion, resulting in less fuel use and fewer emissions, and tracking progress under the Northeast Minnesota Plan. CEMS data is also essential for assessing the effectiveness of SO_2 controls and should provide an indication of changes in fuel use or sulfur content for use in future regional haze planning.

Commenter: Leech Lake Band of Ojibwe.

Comment: The Band agreed with the implementation of CEMS. CEMS will provide the facility and regulators with real time data to ensure that the controls in place are operating at optimum levels, thus saving money for the facility and achieving the required control requirements.

Commenter: National Tribal Air Association.

Comment: The Association found requiring CEMS to be a good complement to the NO_X and SO_2 controls at taconite ore processing facilities. CEMS will provide these facilities with an accurate and timely emissions count of NO_X and SO_2 and will immediately alert owners to any deviations from such emissions that might require correction.

Response: EPA acknowledges the comments in support of the proposed CEMS requirements. EPA is finalizing the CEMS requirements as proposed.

2. Comments Questioning EPA's Continuous Emissions Monitoring Requirements

Commenter: U.S. Forest Service.

Comment: In the Minnesota regional haze SIP, a statement is made that CEMS ''would apply to NO_X emissions at the facilities burning natural gas and to SO_2 emissions at facilities burning high sulfur fuels.'' We do not understand why the NO_X CEMs are only being required at natural gas-fired furnaces. Those furnaces burning fuels other than natural gas will also investigate NO_X control strategies and therefore will need the CEMs.

Response: EPA is requiring CEMS for all seven subject-to-BART taconite facilities. Each taconite facility must monitor its NO_X and SO_2 emissions with CEMS.

Commenter: U. S. Steel and Cliffs Natural Resources.

Comment: Cliffs and U.S. Steel stated that it is inappropriate to require the use of a diluent monitor as part of the monitoring requirements under the proposed rule.

Response: The need to install a diluent monitor is source-specific and depends on a variety of factors, including the choice of monitors installed. While some subject-to-BART facilities may not need to install a diluent monitor, other facilities may because of their stack characteristics, operating conditions, and monitors chosen. Because the final rule covers a variety of facilities, EPA feels it is appropriate to require a diluent monitor only for those facilities needing such a unit. Therefore, the final rule has been revised to provide the facilities with an option to demonstrate in their monitoring plans whether a diluent monitor is needed or not.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that EPA failed to adequately support its CEMS requirements and that EPA should allow flexibility in the monitoring requirements. More specifically, EPA should require ''a comparable method of emission estimation,'' such as parametric emissions monitors, for each subject-to-BART source. Cliffs stated that EPA's unsupported generalized statements do not provide adequate justification for the Agency's burdensome monitoring determination.

Response: EPA clearly states in its technical support for the proposed rule that CEMS are the best method for demonstrating compliance because of the variability in furnace operations and variable fuel usage across the furnaces. The variable fuel feeds and feed material content can impact overall emissions from the process and thereby create the need for continuous monitoring of emissions that impact visibility. Parametric emissions monitor systems are an option for processes that operate at stable, non-variable conditions, but are not appropriate for taconite units. CEMS provide a continuous record of data that can also be used by the facility owner or operator to monitor emissions on a real-time basis. The installation and operation of CEMS and the real-time evaluation of the CEMS data provide several benefits to a facility that can directly lead to practices that reduce emissions during all periods of operation.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that CEMS do not constitute proven monitoring technology with respect to taconite furnaces.

Response: EPA disagrees. CEMS technology for NO_X and SO_2 is proven in multiple industries, including the taconite industry. U.S. Steel is successfully using CEMS at its Minntac and Keetac facilities currently, and any problems experienced with the initial installation of CEMS have been resolved. EPA expects facilities will need some time to learn CEMS operation and how it impacts process operations. EPA has incorporated additional time into the final rule before certification is required to allow each facility to learn how CEMS operates.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs asserted that the requirement to install CEMS should be limited to waste stacks. Cliffs proposed to use stack testing data to determine the percent distribution of NO_X between the hood-exhaust header and the waste-gas header to determine compliance. Cliffs also stated that the use of a single

[29] Minnesota's 2009 regional haze SIP submittal at 96 (Docket # EPA–R05–OAR–2010–0037–0002).

CEMS per furnace is consistent with Minntac, which currently utilizes NO_X and SO_2 CEMS only.

Response: EPA disagrees with Cliffs that the use of CEMS should be limited to waste stacks only. Available information shows that emissions from hood-exhaust stacks can equal about 29 percent of total furnace emissions. Given that nearly one-third of the furnace emissions are from hood exhausts (and can vary), EPA believes that it is appropriate to require CEMS on both waste stacks and hood-exhaust stacks.

Cliffs incorrectly assumed that CEMS are required at each stack venting to the atmosphere. EPA feels it is important to obtain continuous and representative measurements of emissions from subject-to-BART units. If representative measurements of total emissions from subject-to-BART units can be obtained by installing CEMS in a single vent just prior to the common header for the waste-gas stacks and hood-exhaust stacks, then this final rule requires only two CEMS on each stack (one NO_X CEMS and one SO_2 CEMS) for a total of four CEMS, not ten. The initial monitoring plans required by this final rule will be prepared by the facilities and will provide a means through which an effective monitoring program will be put into place. These plans should include proposals for CEMS types, CEMS numbers, CEMS installation locations, QA/QC procedures, and any other topics and are submitted to EPA for review and approval or disapproval. The installation locations provided in these plans shall be determined based on the requirements of 40 CFR part 60, appendices B and F.

Commenters: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that requiring CEMS on emergency stacks is inappropriate.

Response: The requirement to install CEMS on emergency stacks depends on the frequency and duration of the use of the emergency stacks during emergency events. If emergency stacks are used on a daily or weekly basis, then emissions from those stacks could have an impact on annual emissions (and visibility) and should be tracked and recorded. If emergency stacks are truly used infrequently for quick releases, then a CEMS may not be necessary. This can be addressed by each facility on a case-by-case basis in its monitoring plan.

Commenters: Cliffs Natural Resources and ArcelorMittal Minorca Mine

Comment: Cliffs stated that the subject-to-BART facilities should be exempt from the applicable emission limits during startup, shutdown and malfunction events.

Response: EPA disagrees. The CAA requires sources to comply with applicable emission limits at all times, including during startup, shutdown and malfunction. See, e.g., *Sierra Club* v. *EPA,* 551 F.3d 1019, 1021 (DC Cir. 2008); *US Magnesium, LLC* v. *EPA,* 690 F.3d 1157, 1170 (10th Cir. 2012).

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine and U.S. Steel.

Comment: Cliffs commented that the requirement to develop and implement a corrective action program for excess emission events should be directed toward the emissions unit and not be part of the CEMS requirement.

Response: EPA agrees that the corrective action plan for excess emission events should be directed toward the emissions unit. The corrective action plan should establish procedures that operators will follow each time an excess emission event occurs (as identified through the use of real-time CEMS data). These procedures should outline steps to adequately identify causes of excess emissions, actions to be taken to minimize or eliminate those emissions, and evaluate and implement practices to prevent the causes of such excess emissions from reoccurring. The corrective action plan can be an independently developed plan or the procedures can be incorporated into an existing Quality Control Program Plan, corrective action plan, or other existing standard operating plan.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that the dates proposed for installing CEMS are infeasible and suggested an alternative compliance period of 18 months.

Response: EPA disagrees with the length of time Cliffs asserted is needed to design and install CEMS. EPA recognizes that a certain period of time will be needed if significant upgrades to stacks are necessary. However, the design and installation of a CEMS can be completed far more rapidly than the 18-month period suggested by Cliffs. EPA also believes it is inappropriate to consider the time needed for CEMS installation in a cumulative sequential manner as suggested by Cliffs. Design, engineering requirements, and upgrades to data acquisition systems can be performed at the same time as other activities required by the proposed rule.

EPA also recognizes that once CEMS are installed and operating, there will be a short period of time needed to optimize and become familiar with the system in order to certify the units. EPA believes that the entire process for CEMS installation can be successfully met within the time periods outlined in the proposed rule. However, in response to the comments received, the final rule provides an additional 30 days to certify the CEMS and perform the initial Relative Accuracy Test Audit of the CEMS. The anticipated dates for initial certification and the Relative Accuracy Test Audit must be included in the monitoring plan required by the rule.

Commenter: U.S. Steel.

Comment: U.S. Steel commented that it is overly burdensome to require redundant or backup monitoring systems to obtain emissions data during periods of primary CEMS breakdown, repair, calibration check, or zero span adjustment. U.S. Steel proposed to use data gap-filling procedures during those periods when data are not available from the CEMS due to these types of events.

Response: The purpose of including the requirement to use ''other monitoring systems approved by EPA'' is to obtain real-time emissions data during periods of primary CEMS breakdown, repair, calibration check, or zero span adjustment. The secondary data can be used to assure data availability and compliance on a continuous basis. However, the requirement for ''other monitoring systems'' does not mean that a second CEMS system is necessarily needed. Because the duration of these CEMS downtime events is typically short, each subject-to-BART facility can submit proposals for using parametric monitoring or engineering estimates as a surrogate for actual emissions monitoring during these CEMS events. EPA expects that CEMS will be operated at all times, including periods of process unit startup, shutdown and malfunction, except during the events identified above as described at 40 CFR 60.13(e).

EPA also disagrees with the suggestion that gap-filling procedures (i.e., data substitution) should be used for periods of CEMS downtime. Gap-filling procedures are appropriate under 40 CFR part 75 because it is a cap-and-trade program. This final rule is more appropriately related to regulations at 40 CFR part 60, where compliance with an emission limit (rather than annual caps) is required. 40 CFR part 60 prohibits the use of ''data substitution'' (i.e., gap-filling) because it does not provide accurate emission rates during the CEMS downtime.

Commenter: U.S. Steel.

Comment: U.S. Steel commented that it is not appropriate to require initial performance testing of subject-to-BART

facilities or units if the facility is operating a certified CEMS system on the affected units.

Response: EPA has re-evaluated the need for initial performance testing and agrees with U.S. Steel that it is not necessary to require such testing, for purposes of this rule, at facilities that are or will be operating CEMS when those CEMS will be used to determine compliance. The requirement for initial performance testing has been removed from the final rule. It is important to note that while initial performance testing is being removed for purposes of demonstrating compliance, subject-to-BART units must still be tested as part of the CEMS certification process, although this the certification process will typically not require a 30-day test.

L. Comments Concerning Compliance Schedules

Commenter: Leech Lake Band of Ojibwe.

Comment: The Band supported the installation of low NO_X burners and felt that the 1.5 years allowed for the initial installation, with additional burner installations to follow one year later, is a fair and progressive approach to control NO_X emissions.

Response: EPA agrees with the commenter that installing low NO_X burners is the appropriate approach. In response to additional information submitted by other commenters, however, EPA reviewed the proposed installation schedule has extended it by a number of months in the final rule, as discussed in more detail below.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs commented that the BART Guidelines require the states, or EPA when promulgating a FIP, to establish deadlines for compliance with BART emission limits no later than five years from the date of approval or promulgation. EPA's proposed rule, however, contains arbitrary compliance deadlines that are unreasonably short. Cliffs stated that it would take at least four and a half years for it to complete the required engineering, installation, and commissioning of low NO_X burners for a single furnace. ArcelorMittal stated that ''a minimum of 48 months would be necessary to complete this onerous process'' for its Minorca Mine facility.

Response: CAA section 169A(b)(2)(A) requires subject-to-BART sources to install BART and comply with any applicable emission limits ''as expeditiously as practicable.'' The Act defines this term to mean ''as expeditiously as practicable but in no event later than five years after * * * the date of promulgation.'' CAA section 169A(g)(4). This language does not indicate that a compliance schedule of five years is to be assumed. Rather, BART must be installed ''as expeditiously as practicable,'' meaning as soon as the source is capable of installing the controls and meeting the applicable emission limits.

In response to EPA's request for a detailed timeline of the steps required to install low NO_X burners on a taconite furnace, U.S. Steel provided the following information based on its actual experience with a previous install:

TABLE 7—U.S. STEEL'S ESTIMATE COMPLIANCE SCHEDULE

Task	Time
Detailed low NO_X burner engineering	6 months.
Prepare permit applicability determination	2 months.
Procure and manufacture low NO_X burner	8 months.
Install low NO_X burner	3 weeks.
Shakedown of low NO_X burner	6 months.
Total time	22 months, 3 weeks.

In addition to this information, ArcelorMittal included an attachment to its comments of a September 27, 2012 report by Fives North American titled ''Retrofitting Low NO_X Burners on the ArcelorMittal Minorca Straight-Grate Pelletizing Furnace.'' In that report, Fives states that to develop an engineering solution that complies with environmental requirements, it is important to allow sufficient time (approximately four to eight months) for engineering analysis and (possibly) testing. The schedule should allow for an additional seven months for fabrication and delivery, followed by an additional two months for installation and commissioning. This amounts to an estimated time of 17 months to achieve compliance.

Based on the timeline provided by U.S. Steel, the vendor estimate from Fives, and concerns from the commenters, EPA is allowing 26 months for a company's first indurating furnace to comply with the final rule. This will allow each source sufficient time to perform an engineering analysis, prepare a permit applicability determination, manufacture and install the low NO_X burner, and allow for a shakedown period to achieve compliance after the low NO_X burner has been installed. This is eight months longer than the proposed compliance schedule, allowing for the additional time needed for a shakedown period.

The compliance schedule for additional indurating furnaces is being finalized as proposed. Specifically, a second line has an additional year to comply, for a total of 38 months from the effective date of the rule. A third line has two additional years to comply, for a total of 50 months from the effective date of the rule. This staggered installation schedule will minimize any potential impacts on production. EPA notes that U.S. Steel Minntac is following a shorter schedule consistent with the proposed rule. U.S. Steel Keetac will also follow a modified schedule. For more detail, see the comment below.

Commenter: U.S. Steel.

Comment: Due to the lead time associated with acquiring process fans at Keetac, which is estimated to be 52 weeks according to a third-party engineering firm working on the project, and the timing of the major outage schedule, which only occurs once per year, the potential exists to miss the timing window where the two sync up to meet the proposed schedule. Therefore, U.S. Steel requests an additional 12 months to the proposed schedule for installation. In addition, because this will be the first installation of this technology at Keetac, U.S. Steel requests an additional 6 months prior to compliance with the proposed emission limit to allow for a shakedown period to optimize the burner for NO_X reductions.

Response: EPA agrees with U.S. Steel that additional time is needed to procure new pre-heat fans and to achieve compliance after installation. In the final rule, Keetac has three years (36 months from the effective date of the

rule) for its single line to comply with the rule.

Commenter: U.S. Steel.

Comment: Due to timing of major outage schedules, U.S. Steel requests flexibility in the order of installation for Line 4 and Line 5 at Minntac. U.S. Steel agrees with the overall intent of the proposed schedule, but requests the option to select the order of installation of low NO_X burners at Lines 4 and 5.

Response: EPA agrees with the U.S. Steel's request to leave to the discretion of U.S. Steel the order of installation of low NO_X burners at Lines 4 and 5 at Minntac.

M. Comments Asserting That EPA Must Conduct Government-to-Government Consultation With the Tribes

Commenter: National Tribal Air Association (NTAA).

Comment: The Association understands that at the request of the Fond du Lac Band, EPA held a June 28, 2012 conference call with the region's Tribes to discuss the FIP. We appreciate EPA for doing this and highly recommend that the Agency hold similar calls with Tribes for other such actions. However, EPA must also honor its commitment to conduct formal government-to-government consultation in accordance with Executive Order (EO) 13175.

The Association disagrees with EPA's statement that the FIP ''does not have tribal implications, as specified in EO 13175. It will not have substantial direct effects on tribal governments. Thus, EO 13175 does not apply to this rule.'' The application of BART to taconite ore processing facilities that either are in close proximity to Tribes and their communities or are within Treaty-ceded territory areas maintaining Tribes' usufructary functions is a regulatory action that has Tribal implications. As such, EPA must conduct formal government-to-government consultation with Tribes.

There are also clear purposes for EPA to conduct formal government-to-government consultation with Tribes. First, it provides for more candid conversations between individual Tribes and EPA than would occur otherwise in a group meeting involving other Tribes. Second, each Tribe's circumstances are unique and must be treated as such by EPA. Group meetings would only give short shrift to these circumstances. Third, most cultural resources information is protected from release under statutory exemptions to the Freedom of Information Act. Discussion of such information as part of a group meeting risks its release to the general public and potentially endangers Tribal cultural sites and practices. Finally, the subject matter may be so unique, such as a dispute between an individual Tribe about whose cultural resources might be located within or near a taconite ore processing facility, that government-to-government consultation between the Tribe and EPA could provide the best opportunity for a resolution to the situation versus a group meeting where any number of issues might be discussed in a finite period of time.

Response: EPA acknowledges that this action may have tribal implications. EPA recognizes that Tribes may have significant interests in regulatory programs even if the potential Tribal impacts are not the types specifically identified in the Executive Order. In this case, EPA initiated consultation with Tribal officials early in the process of developing this regulation to permit them to have meaningful and timely input into its development. While the Tribes ultimately chose not to engage in individual consultation, EPA did communicate with Tribal representatives to ensure that information was made available and that there was sufficient opportunity for questions and discussion. This effort is described in further detail in Section IV of this final rule. EPA appreciates the comments provided by the Tribes and NTAA on this rule, which will benefit Tribes through reduced pollution and improved visibility.

N. Comments Concerning Non-Air Quality Impacts of the Proposed Rule

Commenter: Cliffs Natural Resources.

Comment: Cliffs commented that significant environmental impacts will result if the rule is finalized as proposed. Cliffs stated that increased fuel combustion resulting from low NO_X burner application will result in increased emissions of the products of combustion. Cliffs added that EPA's proposed SO_2 controls also carry ancillary environmental consequences.

Response: EPA disagrees. The BART Guidelines recognize that environmental concerns become important when sensitive site-specific receptors exist and are impacted by byproducts of the control device. However, the fact that a control device creates liquid and solid waste that must be disposed of does not necessarily argue against that technology as BART. In this case, there are no such sensitive, site-specific issues. To avoid any such issues, EPA rejected the use of wet SO_2 scrubbing at taconite plants in Minnesota because wastewater from wet scrubbing had the potential to interfere with the production of wild rice.

Commenter: National Tribal Air Association.

Comment: The Association commented that Tribal traditional practices will benefit by controlling NO_X and SO_2 emissions from taconite ore processing facilities. Such benefits specifically relate to visibility, health, and acid deposition.

Not only does regional haze, which the FIP addresses, reduce the clarity, color, and visible distance that one can see, it marginalizes Tribal traditional practices that have existed since time immemorial. Many Tribes engage in traditional practices associated with sacred mountains, lakes, or other places that hold significance to them. Some of these practices are dependent on Tribal members being able to view and honor such icons that may be located many miles from a Tribe's lands.

A corresponding effect of NO_X and SO_2 emissions on Tribal traditional practices is on the health of Tribal members. Tribes are not immune from the health effects of NO_X and SO_2, such as asthma, bronchitis, and heart disease. In fact, they are more susceptible to these effects based on lifestyles. Many Tribes and their members spend considerable time outdoors engaged in Tribal traditional practices. Time-honored practice precludes Tribal members from simply moving indoors during high or moderate NO_X or SO_2 emission episodes. Hence, they experience increased health effects due to their long-term exposure to NO_X and SO_2. However, the FIP does much to reduce their exposures to such emissions from taconite ore processing facilities.

Tribal traditional practices are also affected by acid deposition for which NO_X and SO_2 serve as precursors. Upon being emitted into the atmosphere, NO_X and SO_2 return to the Earth's surface is one of two ways. The first occurs when these pollutants mix with water vapor in the atmosphere and are subsequently converted into acids. This is known as wet deposition. The second way occurs when NO_X and SO_2 form gases and salts. These gases and salts can cling to basically anything, including the ground, trees, and buildings. After they attach to an object, they are converted into acids at the point where moisture in the air mixes with them. Tribal foods, such as wild rice, can be contaminated by acid deposition. Forest ecosystems, which are an integral part to Tribal life, are susceptible to oxidation damage due to acid deposition and ozone exposure. Acid deposition adversely affects everything in the forest ecosystem, and the plants and animals on which a number of Tribes subsist. The

petroglyphs (rock images) and other sacred sites of Tribes are also susceptible to acid deposition and decay. The FIP helps to control acid deposition that would otherwise occur due to the emissions of taconite ore processing facilities. Undeniably, this will benefit the region's Tribes.

Response: While the focus of the regional haze program is to improve visibility at Class I areas, the EPA agrees with the Association that emission reductions made to improve visibility have additional benefits. EPA agrees that Midwestern Tribes will benefit as the regional haze program is implemented and emission reductions occur.

Commenter: Leech Lake Band of Ojibwe.

Comment: The Band commented about concerns related to the damage of wild rice. Wild rice is extremely susceptible to sulfides where impacts from these emissions can be currently observed. The effects of sulfide degradation can have detrimental effects on Tribal Lifeways for this important cultural and subsistence food source.

Commenter: Red Cliff Band of Lake Superior Chippewas.

Comment: Sulfur dioxide is a pollutant of special concern to the Red Cliff Tribe due to its negative impacts on sensitive aquatic organisms such as wild rice and its interaction with atmospherically deposited mercury in aquatic systems. Reductions in SO_2 could help to decrease the methylation of mercury in waters fished by Red Cliff and reduce limitations on how much locally harvested fish tribal members can safely consume.

Response: EPA did consider the energy and non-air quality environmental impacts as part of its BART determinations. EPA is aware of the concerns regarding sulfur oxides in wastewater and the resulting effect on wild rice. Accordingly, EPA considered the significance of the potential impacts of wastewater releases while evaluating the control technology options for the taconite facilities.

Commenter: National Tribal Air Association.

Comment: Tribes shoulder a disproportionate burden of the negative environmental consequences caused by the operation of commercial and industrial facilities. Most of these facilities are not located in Tribal communities, but their emissions often find their way onto Reservations and Ceded Territories. Such is the case for the taconite ore processing facilities whose current emissions not only affect the region's Tribes, but whose conversion to ozone could impact these Tribes even further. The Association finds that the NO_X reductions required under the FIP will help address the problem of ozone levels rising with respect to the taconite ore processing facilities and will inhibit climate change albeit a small amount.

Response: While emission reductions being required of the taconite industry are solely to improve visibility at mandatory Class I areas, EPA agrees that collateral benefits may also be achieved due to the emission reductions. EPA did not attempt to identify or quantify these additional potential benefits in this final rule.

O. Miscellaneous Comments

Commenter: Red Cliff Band of Lake Superior Chippewas.

Comment: The Northeast Minnesota Plan calls for a 30 percent reduction in emissions of SO_2 and NO_X (regional haze causing pollutants) from large emitters in this region by the year 2018, with an interim goal of a 20 percent reduction by the year 2012. Minnesota's regional haze SIP states that these facilities are well on-track for meeting these goals. However, over the past several years there have been numerous applications for new mining projects in the area. The Band is very concerned with maintaining the progress that has already been achieved, so that Voyageurs National Park and the Boundary Waters Canoe and Wilderness Area can meet their regional haze Reasonable Progress Goals, as required in the Regional Haze Rule.

Response: EPA gave final approval to many elements of the Minnesota regional haze plan on June 12, 2012 (77 FR 34801). This approval included the Northeast Minnesota Plan. EPA expects Minnesota to meet the pollution reductions goals in the Plan, which may include needing to offset any emission increases from new and expanding facilities with deeper emission reductions from other facilities.

Commenter: Fond du Lac Band of Lake Superior Chippewa.

Comment: The Band commented that it was concerned how the taconite facilities will meet the new hourly SO_2 and NO_2 National Ambient Air Quality Standards (NAAQS) that have recently been issued by EPA. It is likely that at least some of these facilities will need to install additional control equipment in order to be able to demonstrate attainment with these new standards. The installation of low NO_X burners on the BART-eligible taconite sources promises to be a good solution, both for achieving the one-hour NO_2 NAAQS and for reducing regional haze. Given the current state of uncertainty as to how modeling for this one-hour standard should be approached, it may be years before controls are required on taconite furnaces as a solution to any modeled exceedances of the NAAQS. The Band is concerned that this will cause delay in achieving regional haze goals in this area. It is also possible that litigation against or revocation of the NAAQS could further delay the area in achieving these goals.

Response: EPA agrees that control technology installed to meet BART requirements for regional haze may also contribute to improvements in ambient air quality.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs noted that it could not duplicate some of the delta DV and delta days values listed in Tables V–C.10, V–C.11, and V–C.14 of the proposed FIP.

Response: Upon review of the values, EPA agrees with the Cliffs that some of the delta DV and delta days values were incorrect in the proposed rule. Specifically, some of the values listed in Tables V–C.5, V–C.8, and V.C.9 were incorrect. Cliffs also noted that it could not reproduce values in Tables V–C.10, V–C.11, and V–C.14. These values were linked to values in the previous tables and also were listed incorrectly. EPA regrets the errors, but overall, the corrections were minor and did not change the conclusions reached. Corrected tables are listed below.

TABLE V–C.5—BART NO_X AND SO_2 EMISSION REDUCTIONS AND MODELED VISIBILITY IMPACT/EMISSION REDUCTION RATIOS FOR FINE PARTICULATES AT CLASS I AREAS FOR UNITED TACONITE

Parameter	Boundary waters	Voyageurs	Isle Royale
NO_X Emissions Decrease (Δ NO_X)	0 tons/year		

TABLE V–C.5—BART NO_X AND SO_2 EMISSION REDUCTIONS AND MODELED VISIBILITY IMPACT/EMISSION REDUCTION RATIOS FOR FINE PARTICULATES AT CLASS I AREAS FOR UNITED TACONITE—Continued

Parameter	Boundary waters	Voyageurs	Isle Royale
SO_2 Emissions Decrease (Δ SO_2)	1,837 tons/year		
Δ dv $PM_{2.5}$	−1.2	−0.8	−0.3
Δ dv $PM_{2.5}/\Delta$ SO_2	−0.00065	−0.00043	−0.000016
Δ Days $PM_{2.5}$	−10	−8	−3
Δ Days $PM_{2.5}/\Delta$ SO_2	−0.0054	−0.0044	−0.0016

TABLE V–C.8—BART NO_X AND SO_2 EMISSION REDUCTIONS AND MODELED VISIBILITY IMPACT/EMISSION REDUCTION RATIOS FOR FINE PARTICULATES AT CLASS I AREAS FOR NORTHSHORE MINING-SILVER BAY

Parameter	Boundary waters	Voyageurs	Isle Royale
NO_X Emissions Decrease (Δ NO_X)	678 tons/year		
SO_2 Emissions Decrease (Δ SO_2)	444 tons/year		
Δ dv $PM_{2.5}$	−0.2	−0.1	−0.2
Δ dv $PM_{2.5}/\Delta$ NO_X	−0.00029	−0.00015	−0.00029
Δ DV $PM_{2.5}/\Delta$ SO_2	−0.00045	−0.00023	−0.00045
Δ Days $PM_{2.5}$	−5	−1	−3
Δ Days $PM_{2.5}/\Delta$ NO_X	−0.0074	−0.0015	−0.0044
Δ Days $PM_{2.5}/\Delta$ SO_2	−0.011	−0.0023	−0.0068

TABLE V–C.9—AVERAGED VISIBILITY IMPACT/EMISSION CHANGE RATIOS FOR ANALYZED/IMPACTED CLASS I AREAS

Parameter ratio	Boundary waters	Voyageurs	Isle Royale
Δ DV $PM_{2.5}/\Delta$ NO_X	−0.00061	−0.00030	−0.00042
Δ DV $PM_{2.5}/\Delta$ SO_2	−0.00050	−0.00025	−0.00030
Δ Days/Δ NO_X	−0.0083	−0.004	−0.00524
Δ Days/Δ SO_2	−0.0067	−0.0030	−0.0037

TABLE V–C.10—ESTIMATED EMISSION REDUCTIONS AND RESULTING CHANGES IN VISIBILITY FACTORS FOR ARCELORMITTAL

Visibility factor or pollutant emissions reduction	Boundary waters	Voyageurs	Isle Royale
NO_X Emissions Reduction	2,859 tons/year		
Δ DV	−1.7	−0.9	−1.2
Δ Days > 0.5 DV	−24	−11	−15

TABLE V–C.11—ESTIMATED EMISSION REDUCTIONS AND RESULTING CHANGES IN VISIBILITY FACTORS FOR HIBBING TACONITE

Visibility factor or pollutant emissions reduction	Boundary waters	Voyageurs	Isle Royale
NO_X Emissions Reduction	5,259 tons/year		
Δ DV	−3.2	−1.6	−2.2
Δ Days > 0.5 DV	−44	−21	−28

TABLE V–C.12—ESTIMATED EMISSION REDUCTIONS AND RESULTING CHANGES IN VISIBILITY FACTORS FOR U.S. STEEL-KEETAC

Visibility factor or pollutant emissions reduction	Boundary waters	Voyageurs	Isle Royale
NO_X Emissions Reduction	2,908 tons/year		
Δ DV	−1.8	−0.9	−1.2

TABLE V–C.12—ESTIMATED EMISSION REDUCTIONS AND RESULTING CHANGES IN VISIBILITY FACTORS FOR U.S. STEEL-KEETAC—Continued

Visibility factor or pollutant emissions reduction	Boundary waters	Voyageurs	Isle Royale
Δ Days > 0.5 DV	−24	−11	−15

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: References to the optional use of Part 75 recordkeeping requirements should be removed from the proposed rule because taconite furnaces are not Acid Rain subject units.

Response: EPA intended to provide the Part 75 recordkeeping requirements as an option for facilities electing to use those recordkeeping requirements. If a subject-to-BART facility is not subject to the Acid Rain requirements, then recordkeeping requirements of either 40 CFR part 60 or 40 CFR part 63 may be used.

Commenter: Cliffs Natural Resources, ArcelorMittal Minorca Mine, and U.S. Steel.

Comment: Cliffs and U.S. Steel noted that the reference to 40 CFR 163.3 is incorrect and should be revised to 40 CFR 136.3.

Response: A correct citation is provided in the final rule.

Commenter: Cliffs Natural Resources and ArcelorMittal Minorca Mine.

Comment: Cliffs noted that the reference to 40 CFR part 60, appendix B, Performance Specification 2, Procedure 1, is incorrect. Procedure 1 should be associated with 40 CFR part 60, appendix F.

Response: A correct citation is provided in the final rule.

Commenter: Cliffs Natural Resources, ArcelorMittal Minorca Mine, and U.S. Steel.

Comment: Cliffs and U.S. Steel stated that the inclusion of references to the General Provisions of 40 CFR part 63 is inappropriate and overly burdensome. The references to 40 CFR part 63 should be removed.

Response: EPA included references to 40 CFR part 63 because many of those requirements (including the development of a startup, shutdown and malfunction plan and monitoring plan) should have already been developed for the subject-to-BART facilities for purposes of the Taconite MACT rule. Additionally, the requirements associated with the installation, certification, maintenance, and operation of the CEMS are similar. However, in response to the comments received, references to 40 CFR part 63 will be removed. References to 40 CFR part 60, appendices B and F will be retained where appropriate. The rule has also been revised to specifically identify requirements that we intended to include (for example notifications or reporting), but which were previously incorporated through citing to either 40 CFR part 60 or 40 CFR part 63.

III. What action is EPA taking?

The emission sources discussed below are indurating furnaces at seven taconite facilities. Six of the taconite facilities, ArcelorMittal, Hibbing Taconite, Northshore Mining, U.S. Steel Keetac, U.S. Steel Minntac, and United Taconite, are located in Minnesota, while Tilden is located in Michigan. EPA has adopted the terminology used by the companies and states to identify the indurating furnaces to ensure consistency with permits and other enforceable documents. However, regardless of whether the emission sources are referred to as furnaces, kilns, or lines, all terms refer to indurating furnaces, which involve a high temperature process for hardening taconite pellets for subsequent use in blast furnaces.

A. NO_X Limits

EPA is revising its proposed limit of 1.2 lbs NO_X/MMBTU, on a 30-day rolling average, to a limit of 1.2 lbs NO_X/MMBTU when only natural gas is used and a limit of 1.5 lbs NO_X/MMBTU for all other fuels, on a 30-day rolling average, for all indurating furnaces. These revised limits are based upon test data submitted by U.S. Steel for Lines 6 and 7 at Minntac while using low NO_X burners. This revision affects U.S. Steel Keetac, U.S. Steel Minntac, and United Taconite, which use solid fuel. The other four facilities will be subject to the natural gas limit of 1.2 lbs NO_X/MMBTU. To meet these limits, the sources will essentially be required to install low NO_X burners on each indurating furnace. Based upon information received during the comment period, EPA believes that 26 months is a reasonable time for a company's first indurating furnace to comply with the limit. This will allow each company sufficient time to perform an engineering analysis, prepare a permit applicability determination, manufacture and install the low NO_X burner(s), and provide for a shakedown period to achieve compliance after the low NO_X burner(s) have been installed. While this compliance schedule is six months longer than the proposal, EPA believes that the additional time is necessary for a shakedown period.

As specified in the proposal, a second line will have an additional year to comply with the emission limit, while a third line will have two additional years to comply. This approach will stagger the installation and minimize impacts on production. EPA notes, however, that U.S. Steel Minntac is on a shorter schedule consistent with what was proposed, while U.S. Steel Keetac has been given three years to comply with its only line. The additional time afforded to U.S. Steel Keetac is primarily due to the lead time associated with acquiring process fans.

B. SO_2 Limits

EPA is revising all of the proposed SO_2 limits as follows. Unless otherwise stated, these limits are based on the 95th percentile UPL.

Tilden Mining Company

Tilden's Grate Kiln Line 1 is required to convert to 100 percent natural gas and install CEMS within one year of the effective date of this rule. Within 26 months of the effective date of this rule, an emission limit must be established, in terms of lbs SO_2/hr, on a 30-day rolling average, based on the 95th percentile UPL. This compliance schedule allows two months to process 12 months of CEMS data. This is a change from the proposed requirement to install an add-on control system, achieving either 5 ppmv SO_2 or 95 percent removal efficiency, because such a control system is not economically feasible when a furnace is using only natural gas.

U.S. Steel Keetac

An emission limit of 225 lbs SO_2/hr, based on a 30-day rolling average, shall apply to U.S. Steel Keetac's Grate Kiln pelletizing furnace beginning three months from the effective date of the rule. This numerical limit and compliance schedule are the same as those contained in the proposed rulemaking and reflect existing controls. However, redundant control efficiency and pH limits have been eliminated.

EPA has clarified in the final rule that, in addition to this SO_2 limit, any coal burned at Keetac must have a sulfur content no greater than 0.60 percent sulfur by weight based on a monthly block average.

Hibbing Taconite

An aggregate emission limit of 247.8 lbs SO_2/hr, based on a 30-day rolling average, shall apply to the pelletizing furnaces at Hibbing's three lines beginning six months from the effective date of this rule. This limit reflects existing controls. This is an increase from the proposed limit, which totaled 183 lbs SO_2/hr, based on a 30-day rolling average. This increase is a result of more accurate emission data that was obtained subsequent to the proposal.

U.S. Steel Minntac

An aggregate emission limit of 498 lbs SO_2/hr shall apply to indurating furnace Lines 3–7 when all lines are producing flux pellets. An aggregate emission limit of 630 lbs SO_2/hr shall apply to Lines 3–7 when Lines 3–5 are producing acid pellets and Lines 6 and 7 are producing flux pellets. An aggregate emission limit of 800 lbs SO_2/hr shall apply to Lines 3–7 when all lines are producing acid pellets. These limits reflect existing controls. These SO_2 emission limits are based on a 30-day rolling average and apply three months from the effective date of this rule. This is an increase from the proposed limits, which totaled 327 lbs SO_2/hr, based on a 30-day rolling average. This increase is a result of more accurate emission data that was obtained subsequent to the proposal. EPA has clarified in the final rule that, in addition to these SO_2 limits, any coal burned at Minntac must have a sulfur content no greater than 0.60 percent sulfur by weight based on a monthly block average.

United Taconite

An aggregate emission limit of 529 lbs SO_2/hr, based on a 30-day rolling average, shall apply to the Line 1 and Line 2 pellet furnaces beginning 54 months from the effective date of this rule. In addition to this limit, United Taconite is required to burn either natural gas or a blend of natural gas and coal. Any coaled burned must have a sulfur content no greater than 0.60 percent sulfur by weight based on a monthly block average. This limit represents a change from the proposed requirement to install an add-on control system, achieving either 5 ppmv SO_2 or 95 percent removal efficiency. Because this federally enforceable operational change in fuel mixture will achieve approximately a 50 percent reduction in the facility's baseline and actual emissions, the proposed add-on control system is no longer cost effective.

ArcelorMittal Minorca Mine

An emission limit of 38.16 lbs SO_2/hr, based on a 30-day rolling average, shall apply to ArcelorMittal's indurating furnace beginning six months from the effective date of this rule. This is an increase from the proposed limit of 23 lbs SO_2/hr, based upon a 30-day rolling average. This increase is a result of more accurate emission data that was obtained subsequent to the proposal.

Northshore Mining Company

An aggregate emission limit of 39 lbs SO_2/hr, based on a 30-day rolling, shall apply to Furnace 11 and Furnace 12, beginning six months from the effective date of this rule. This limit will stay effective for one year. This is an increase from the proposed limit of 33.4 lbs SO_2/hr, based upon a 30-day rolling average. The proposed control efficiency requirement has been eliminated because it is a redundant requirement. Within 20 months of the effective date of this rule, a revised SO_2 limit must be established based on one year of hourly CEMS data using the 95th percentile UPL.

C. CEMS

As required in the proposal, installation and operation of CEMS is required no later than the applicable compliance date for each limit. This represents no change from the proposed rulemaking. However, as indicated above, some compliance dates have been extended, and some indurating furnaces are now subject to status-quo SO_2 limits. Based upon comments received, as well as additional information regarding the amount of time needed to install CEMS, we have increased the compliance schedule from three months to six months for those sources that are maintaining status quo controls and do not currently have CEMS.

D. Visibility Benefits and Cost Effectiveness

EPA estimates that this action will improve visibility at four Class I areas by reducing about 22,000 tons per year of NO_X emissions and 2,000 tons per year of SO_2 emissions from seven taconite facilities. The reductions in NO_X emissions will result from the installation of low NO_X burners, a relatively inexpensive control device that does not involve significant retrofit costs as the process consists primarily of switching out burners. U.S. Steel Minntac is the only facility at which low NO_X burners have been installed and the only one for which detailed cost information is available.

TABLE 8—LOW NO_X BURNER COST ANALYSIS AT U.S. STEEL MINNTAC LINE 6

Fuel blend	Capital cost ($)	Annualized capital cost ($/yr)	Annual O&M ($/yr)	Total annualized cost ($/yr)	Cost-effectiveness ($/ton)
60% Coal/40% Natural Gas	$2,846,422	$536,754	$228,293	$765,048	$441
100% Natural Gas	2,846,422	536,754	228,293	765,048	210

EPA believes that the costs cited by U.S. Steel are generally applicable across the industry based on discussions the Agency had with vendors. As a result, a figure of $500/ton was ultimately selected as a conservative upper bound for the cost effectiveness of installations at the other taconite facilities.

Reductions in SO_2 emissions will result from fuel switching and new emission limits that properly reflect existing SO_2 controls. EPA did not have sufficient information to estimate the costs of fuel switching.

Proposed Disapproval of the States' BART Determinations for Taconite Facilities

EPA reiterates that the Agency is not taking action today on its proposed disapproval of Minnesota and Michigan's BART determinations for the taconite industry. EPA is issuing a separate supplemental notice of

proposed rulemaking that provides additional explanation of the Agency's rationale for the proposed disapproval and solicits additional comments. EPA will publish a separate final rulemaking regarding the proposed disapproval once the Agency has completed review of any additional public comments received.

IV. Statutory and Executive Order Reviews

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

This action finalizes BART requirements for seven taconite facilities in Minnesota and Michigan. Therefore, it is not a rule of general applicability, and not a ''significant regulatory action'' under the terms of Executive Order 12866 (58 FR 51753, October 4, 1993). Because this type of action is exempt from review under EO 12866, it is also not subject to review under Executive Order 13563 (76 FR 3821, January 21, 2011).

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. Burden is defined at 5 CFR 1320.3(b). Because this FIP only applies to seven facilities in Minnesota and Michigan, the Paperwork Reduction Act does not apply. See 5 CFR 1320.3(c).

C. Regulatory Flexibility Act

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

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

After considering the economic impacts of this action on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The net result of this final action is that EPA is promulgating emission controls on selected units at seven large taconite facilities that are not owned by small entities, and therefore are not themselves small entities.

D. Unfunded Mandates Reform Act (UMRA)

This rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. It is a rule of particular applicability that affects only seven facilities in Michigan and Minnesota. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This rule only applies to seven facilities in Michigan and Minnesota.

E. Executive Order 13132 Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This action addresses Michigan and Minnesota's failure to submit SIPs by the applicable deadline that meet the regional haze requirements under the Clean Air Act. Thus, Executive Order 13132 does not apply to this action. Although section 6 of Executive Order 13132 does not apply to this action, EPA did consult with Michigan and Minnesota in developing this action.

F. Executive Order 13175

Subject to Executive Order 13175 (65 FR 67249, November 9, 2000), EPA may not issue a regulation that has Tribal implication, 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 Tribal governments, or EPA consults with Tribal officials early in the process of developing the proposed regulation and develops a Tribal summary impact statement.

EPA has concluded that this action may have Tribal implications. For example, although the FIP does not apply to sources in Indian country, controls and emission reductions arising from the program may affect Indian country or other Tribal interests. However, the regulations arising under this action will neither impose substantial direct compliance costs on Tribal governments, nor preempt Tribal law.

EPA initiated consultation with Tribal officials early in the process of developing this regulation to permit them to have meaningful and timely input into its development. EPA sent an invitation to consult to each Region 5 Tribe on August 15, 2012, along with a copy of the proposed taconite FIP **Federal Register** notice. Conference calls were held on the taconite FIP proposal on August 22, 2012 and September 12, 2012 to provide all Region 5 Tribes with more information on the proposed rulemaking and an opportunity to ask questions of EPA technical staff and request individual consultation if desired. Four Region 5 Tribes participated in the August 22, 2012 call. Two Region 5 Tribes participated in the September 12, 2012 discussion. One Region 5 Tribe provided verbal testimony at the public hearing held on the proposed taconite FIP rulemaking on August 29, 2012. One Region 5 Tribal Chair expressed appreciation for the discussions held with the Tribes and gratitude for EPA's careful consideration of the regional haze situation in northeast Minnesota.

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

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the executive order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it implements specific standards established by Congress in statutes. However, to the extent this rule will limit emissions, the rule will have a beneficial effect on children's health by reducing air pollution.

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

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

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Today's action does not require the public to perform activities conducive to the use of voluntary consensus standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

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

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

We have determined that this rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. This rule limits emissions from seven facilities.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. Section 804 exempts from section 801 the following types of rules: (1) Rules of particular applicability; (2) rules relating to agency management or personnel; and (3) rules of agency organization, procedure, or practice that do not substantially affect the rights or obligations of non-agency parties. 5 U.S.C. 804(3). EPA is not required to submit a rule report regarding today's action under section 801 because this is a rule of particular applicability.

L. Judicial Review

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by April 8, 2013. Pursuant to Clean Air Act section 307(d)(1)(B), this action is subject to the requirements of Clean Air Act section 307(d) because it promulgates a FIP under Clean Air Act section 110(c). Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review, nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. See Clean Air Act section 307(b)(2).

List of Subjects in 40 CFR Part 52

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

Dated: January 15, 2013.

Lisa P. Jackson,

Administrator.

40 CFR part 52 is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

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

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

Subpart X—Michigan

■ 2. Section 52.1183 is amended by adding and reserving paragraph (j), and adding paragraphs (k), (l), (m), and (n) to read as follows:

§ 52.1183 Visibility protection.

* * * * *

(j) [Reserved]

(k) Tilden Mining Company, or any subsequent owner/operator of the Tilden Mining Company facility in Ishpeming, Michigan, shall meet the following requirements:

(1) *NO_X Emission Limits.* An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the indurating furnace, Grate Kiln Line 1 (EUKILN1), beginning 26 months from March 8, 2013. However, for any 30, or more, consecutive days when only natural gas is used a limit of 1.2 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply.

(2) *SO_2 Emission Limits.* A fuel sulfur content limit of no greater than 1.20 percent sulfur content by weight shall apply to fuel combusted in Process Boiler #1 (EUBOILER1) and Process Boiler #2 (EUBOILER2) beginning 3 months from March 8, 2013. A fuel sulfur content limit of no greater than 1.50 percent sulfur content by weight shall apply to fuel combusted in the Line 1 Dryer (EUDRYER1) beginning 3 months from March 8, 2013. The sampling and calculation methodology for determining the sulfur content of fuel must be described in the monitoring plan required at paragraph (n)(8)(x) of this section.

(3) The owner or operator of the facility must switch Grate Kiln Line 1 (EUKILN1) to 100 percent natural gas beginning 1 year from March 8, 2013. For the purposes of CEMS requirements, the compliance date by which the CEMS must be installed and operated for Tilden is one year from March 8, 2013. Within 26 months of March 8, 2013, the owner or operator must calculate and comply with an SO_2 limit based on one year of hourly CEMS emissions data reported in lbs SO_2/hr and submit such limit, calculations and CEMS data to EPA. This limit shall be calculated in terms of lbs SO_2/hr, based on the following equations, with compliance to be determined on a 30-day rolling average.

$$m - (n + 1) * \alpha$$

m = the rank of the ordered data point, when data is sorted smallest to largest
n = number of data points
α = 0.95, to reflect the 95th percentile

If m is a whole number, then the limit, UPL, shall be computed as:

$UPL = X_m$,
Where:

x_m = value of the mth data point in terms of lbs SO_2/hr, when the data is sorted smallest to largest

If m is not a whole number, the limit shall be computed by linear

interpolation according to the following equation.

$$UPL = x_m = x_{m_t m_d} = x_{m_t} + m_d \left(x_{m_t+1} - x_{m_t}\right)$$

Where:

m_t = the integer portion of m, i.e., m truncated at zero decimal places, and

m_d = the decimal portion of m

(4) Starting 26 months from March 8, 2013, records shall be kept for any day during which fuel oil is burned as fuel (either alone or blended with other fuels) in Grate Kiln Line 1. These records must include, at a minimum, the gallons of fuel oil burned per hour, the sulfur content of the fuel oil, and the SO_2 emissions in pounds per hour.

(5) Starting 26 months from March 8, 2013 for Grate Kiln Line 1, the SO_2 limit does not apply for any hour in which it is documented that there is a natural gas curtailment, beyond Cliffs' control, necessitating that the supply of natural gas to Tilden's Line 1 indurating furnace is restricted or eliminated. Records must be kept of the cause of the curtailment and duration of such curtailment. During such curtailment, the use of backup coal is restricted to coal with no greater than 0.60 percent sulfur by weight.

(l) *Testing and monitoring.* (1) The owner or operator shall install, certify, calibrate, maintain and operate a Continuous Emissions Monitoring System (CEMS) for NO_X on Tilden Mining Company unit EUKILN1. Compliance with the emission limits for NO_X shall be determined using data from the CEMS.

(2) The owner or operator shall install, certify, calibrate, maintain and operate a CEMS for SO_2 on Tilden Mining Company unit EUKILN1. Compliance with the emission standard selected for SO_2 shall be determined using data from the CEMS.

(3) The owner or operator shall install, certify, calibrate, maintain and operate one or more continuous diluent monitor(s) (O_2 or CO_2) and continuous flow rate monitor(s) on Tilden Mining Company unit EUKILN1 to allow conversion of the NO_X and SO_2 concentrations to units of the standard (lbs/MMBtu and lbs/hr, respectively) unless a demonstration is made that a diluent monitor and continuous flow rate monitor are not needed for the owner or operator to demonstrate compliance with applicable emission limits in units of the standards.

(4) For purposes of this section, all CEMS required by this section must meet the requirements of paragraphs (l)(4)(i)–(xiv) of this section.

(i) All CEMS must be installed, certified, calibrated, maintained, and operated in accordance with 40 CFR Part 60, Appendix B, Performance Specification 2 (PS–2) and Appendix F, Procedure 1.

(ii) All CEMS associated with monitoring NO_X (including the NO_X monitor and necessary diluent and flow rate monitors) must be installed and operational no later than the compliance date for the emission limit identified at (k)(1). All CEMS associated with monitoring SO_2 must be installed and operational no later than twelve months after March 8, 2013. Verification of the CEMS operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the devices.

(iii) The owner or operator must conduct a performance evaluation of each CEMS in accordance with 40 CFR Part 60, Appendix B, PS–2. The performance evaluations must be completed no later than 60 days after the respective CEMS installation.

(iv) The owner or operator of each CEMS must conduct periodic Quality Assurance, Quality Control (QA/QC) checks of each CEMS in accordance with 40 CFR Part 60, Appendix F, Procedure 1. The first CEMS accuracy test will be a relative accuracy test audit (RATA) and must be completed no later than 60 days after the respective CEMS installation.

(v) The owner or operator of each CEMS must furnish the Regional Administrator two, or upon request, more copies of a written report of the results of each performance evaluation and QA/QC check within 60 days of completion.

(vi) The owner or operator of each CEMS must check, record, and quantify the zero and span calibration drifts at least once daily (every 24 hours) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 4.

(vii) Except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS required by this section shall be in continuous operation during all periods of process operation of the indurating furnaces, including periods of process unit startup, shutdown, and malfunction.

(viii) All CEMS required by this section must meet the minimum data requirements at paragraphs (l)(4)(viii)(A)–(C) of this section.

(A) Complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute quadrant of an hour.

(B) Sample, analyze and record emissions data for all periods of process operation except as described in paragraph (l)(4)(viii)(C) of this section.

(C) When emission data from CEMS are not available due to continuous monitoring system breakdowns, repairs, calibration checks, or zero and span adjustments, emission data must be obtained using other monitoring systems or emission estimation methods approved by the EPA. The other monitoring systems or emission estimation methods to be used must be incorporated into the monitoring plan required by this section and provide information such that emissions data are available for a minimum of 18 hours in each 24 hour period and at least 22 out of 30 successive unit operating days.

(ix) Owners or operators of each CEMS required by this section must reduce all data to 1-hour averages. Hourly averages shall be computed using all valid data obtained within the hour but no less than one data point in each fifteen-minute quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant in an hour) if data are unavailable as a result of performance of calibration, quality assurance, preventive maintenance activities, or backups of data from data acquisition and handling systems, and recertification events.

(x) The 30-day rolling average emission rate determined from data derived from the CEMS required by this section (in lbs/MMBtu or lbs/hr depending on the emission standard selected) must be calculated in accordance with paragraphs (l)(4)(x)(A)–(F) of this section.

(A) Sum the total pounds of the pollutant in question emitted from the Unit during an operating day and the previous twenty-nine operating days.

(B) Sum the total heat input to the unit (in MMBtu) or the total actual hours of operation (in hours) during an

operating day and the previous twenty-nine operating days.

(C) Divide the total number of pounds of the pollutant in question emitted during the thirty operating days by the total heat input (or actual hours of operation depending on the emission limit selected) during the thirty operating days.

(D) For purposes of this calculation, an operating day is any day during which fuel is combusted in the BART affected Unit regardless of whether pellets are produced. Actual hours of operation are the total hours a unit is firing fuel regardless of whether a complete 24-hour operational cycle occurs (i.e. if the furnace is firing fuel for only 5 hours during a 24-hour period, then the actual operating hours for that day are 5. Similarly, total number of pounds of the pollutant in question for that day is determined only from the CEMS data for the five hours during which fuel is combusted.)

(E) If the owner or operator of the CEMS required by this section uses an alternative method to determine 30-day rolling averages, that method must be described in detail in the monitoring plan required by this section. The alternative method will only be applicable if the final monitoring plan and the alternative method are approved by EPA.

(F) A new 30-day rolling average emission rate must be calculated for the period ending each new operating day.

(xi) The 30-day rolling average removal efficiency determined from data derived from the CEMS required by this section must be calculated in accordance with paragraphs (l)(4)(xi)(A)–(G) of this section.

(A) Calculate the 30-day rolling average emission rate described in paragraphs (l)(4)(x)(A)–(F) of this section at the inlet of the control device.

(B) Calculate the 30-day rolling average emission rate described in paragraphs (l)(4)(x)(A)–(F) of this section at the outlet of the control device.

(C) Subtract the 30-day rolling average emission rate determined at the outlet of the control device from the 30-day rolling average emission rate determined at the inlet of the control device.

(D) Divide the result of paragraph (l)(4)(xi)(C) of this section by the 30-day rolling average emission rate determined at the inlet.

(E) Multiply the result of paragraph (l)(4)(xi)(D) of this section by 100 to determine the 3-day rolling average percent removal efficiency.

(F) If the owner or operator of the CEMS required by this section uses an alternative method to determine the 30-day rolling average removal efficiency, that method must be described in detail in the monitoring plan required by this section. The alternative method will only be applicable if the final monitoring plan and the alternative method are approved by EPA.

(G) A new 30-day rolling average removal efficiency must be calculated for each new operating day.

(xii) Data substitution must not be used for purposes of determining compliance under this section.

(xiii) All CEMS data shall be reduced and reported in units of the applicable standard.

(xiv) A Quality Control Program must be developed and implemented for all CEMS required by this section in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 3. The program will include, at a minimum, written procedures and operations for calibration checks, calibration drift adjustments, preventative maintenance, data collection, recording and reporting, accuracy audits/procedures, periodic performance evaluations, and a corrective action program for malfunctioning CEMS.

(m) *Recordkeeping requirements.* (1)(i) Records required by this section must be kept in a form suitable and readily available for expeditious review.

(ii) Records required by this section must be kept for a minimum of 5 years following the date of creation.

(iii) Records must be kept on site for at least 2 years following the date of creation and may be kept offsite, but readily accessible, for the remaining 3 years.

(2) The owner or operator of the BART affected unit must maintain the records identified in paragraphs (m)(2)(i)–(xi) of this section.

(i) A copy of each notification and report developed for and submitted to comply with this section including all documentation supporting any initial notification or notification of compliance status submitted, according to the requirements of this section.

(ii) Records of the occurrence and duration of each startup, shutdown, and malfunction of the BART affected unit, air pollution control equipment, and CEMS required by this section.

(iii) Records of activities taken during each startup, shutdown, and malfunction of the BART affected unit, air pollution control equipment, and CEMS required by this section.

(iv) Records of the occurrence and duration of all major maintenance conducted on the BART affected unit, air pollution control equipment, and CEMS required by this section.

(v) Records of each excess emission report, including all documentation supporting the reports, dates and times when excess emissions occurred, investigations into the causes of excess emissions, actions taken to minimize or eliminate the excess emissions, and preventative measures to avoid the cause of excess emissions from occurring again.

(vi) Records of all CEMS data including, as a minimum, the date, location, and time of sampling or measurement, parameters sampled or measured, and results.

(vii) All records associated with quality assurance and quality control activities on each CEMS as well as other records required by 40 CFR Part 60, Appendix F, Procedure 1 including, but not limited to, the quality control program, audit results, and reports submitted as required by this section.

(viii) Records of the NO_X emissions during all periods of BART affected unit operation, including startup, shutdown and malfunction, in the units of the standard. The owner or operator shall convert the monitored data into the appropriate unit of the emission limitation using appropriate conversion factors and F-factors. F-factors used for purposes of this section shall be documented in the monitoring plan and developed in accordance with 40 CFR Part 60, Appendix A, Method 19. The owner or operator may use an alternate method to calculate the NO_X emissions upon written approval from EPA.

(ix) Records of the SO_2 emissions or records of the removal efficiency (based on CEMS data), depending on the emission standard selected, during all periods of operation, including periods of startup, shutdown and malfunction, in the units of the standard.

(x) Records associated with the CEMS unit including type of CEMS, CEMS model number, CEMS serial number, and initial certification of each CEMS conducted in accordance with 40 CFR Part 60, Appendix B, Performance Specification 2 must be kept for the life of the CEMS unit.

(xi) Records of all periods of fuel oil usage as required at paragraph (k)(4) of this section.

(n) *Reporting requirements.* (1) All requests, reports, submittals, notifications, and other communications to the Regional Administrator required by this section shall be submitted, unless instructed otherwise, to the Air and Radiation Division, U.S. Environmental Protection Agency, Region 5 (A–18J) at 77 West Jackson Boulevard, Chicago, Illinois 60604.

References in this section to the Regional Administrator shall mean the EPA Regional Administrator for Region 5.

(2) The owner or operator of each BART affected unit identified in this section and CEMS required by this section must provide to the Regional Administrator the written notifications, reports and plans identified at paragraphs (n)(2)(i)–(viii) of this section. If acceptable to both the Regional Administrator and the owner or operator of each BART affected unit identified in this section and CEMS required by this section the owner or operator may provide electronic notifications, reports and plans.

(i) A notification of the date construction of control devices and installation of burners required by this section commences postmarked no later than 30 days after the commencement date.

(ii) A notification of the date the installation of each CEMS required by this section commences postmarked no later than 30 days after the commencement date.

(iii) A notification of the date the construction of control devices and installation of burners required by this section is complete postmarked no later than 30 days after the completion date.

(iv) A notification of the date the installation of each CEMS required by this section is complete postmarked no later than 30 days after the completion date.

(v) A notification of the date control devices and burners installed by this section startup postmarked no later than 30 days after the startup date.

(vi) A notification of the date CEMS required by this section startup postmarked no later than 30 days after the startup date.

(vii) A notification of the date upon which the initial CEMS performance evaluations are planned. This notification must be submitted at least 60 days before the performance evaluation is scheduled to begin.

(viii) A notification of initial compliance, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the requirements of this section, including, but not limited to, applicable emission standards, control device and burner installations, CEMS installation and certification. This notification must be submitted before the close of business on the 60th calendar day following the completion of the compliance demonstration and must include, at a minimum, the information at paragraphs (n)(2)(viii)(A)–(F) of this section.

(A) The methods used to determine compliance.

(B) The results of any CEMS performance evaluations, and other monitoring procedures or methods that were conducted.

(C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods.

(D) The type and quantity of air pollutants emitted by the source, reported in units of the standard.

(E) A description of the air pollution control equipment and burners installed as required by this section, for each emission point.

(F) A statement by the owner or operator as to whether the source has complied with the relevant standards and other requirements.

(3) The owner or operator must develop and implement a written startup, shutdown, and malfunction plan for NO_X and SO_2. The plan must include, at a minimum, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for a malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. The plan must ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize or eliminate emissions using good air pollution control practices. The plan must ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence.

(4) The written reports of the results of each performance evaluation and QA/QC check in accordance with and as required by paragraph (l)(4)(v) of this section.

(5) Compliance Reports. The owner or operator of each BART affected unit must submit semiannual compliance reports. The semiannual compliance reports must be submitted in accordance with paragraphs (n)(5)(i) through (iv) of this section, unless the Regional Administrator has approved a different schedule.

(i) The first compliance report must cover the period beginning on the compliance date that is specified for the affected source through June 30 or December 31, whichever date comes first after the compliance date that is specified for the affected source.

(ii) The first compliance report must be postmarked no later than 30 calendar days after the reporting period covered by that report (July 30 or January 30), whichever comes first.

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be postmarked no later than 30 calendar days after the reporting period covered by that report (July 30 or January 30).

(6) Compliance report contents. Each compliance report must include the information in paragraphs (n)(6)(i) through (vi) of this section.

(i) Company name and address.

(ii) Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) Identification of the process unit, control devices, and CEMS covered by the compliance report.

(v) A record of each period of a startup, shutdown, or malfunction during the reporting period and a description of the actions the owner or operator took to minimize or eliminate emissions arising as a result of the startup, shutdown or malfunction and whether those actions were or were not consistent with the source's startup, shutdown, and malfunction plan.

(vi) A statement identifying whether there were or were not any deviations from the requirements of this section during the reporting period. If there were deviations from the requirements of this section during the reporting period, then the compliance report must describe in detail the deviations which occurred, the causes of the deviations, actions taken to address the deviations, and procedures put in place to avoid such deviations in the future. If there were no deviations from the requirements of this section during the reporting period, then the compliance report must include a statement that there were no deviations. For purposes of this section, deviations include, but are not limited to, emissions in excess of applicable emission standards established by this section, failure to continuously operate an air pollution control device in accordance with operating requirements designed to assure compliance with emission standards, failure to continuously operate CEMS required by this section, and failure to maintain records or submit reports required by this section.

(7) Each owner or operator of a CEMS required by this section must submit quarterly excess emissions and monitoring system performance reports to the Regional Administrator for each pollutant monitored for each BART affected unit monitored. All reports must be postmarked by the 30th day following the end of each three-month period of a calendar year (January–March, April–June, July–September, October–December) and must include, at a minimum, the requirements at paragraphs (n)(7)(i)–(xv).

(i) Company name and address.

(ii) Identification and description of the process unit being monitored.

(iii) The dates covered by the reporting period.

(iv) Total source operating hours for the reporting period.

(v) Monitor manufacturer, monitor model number and monitor serial number.

(vi) Pollutant monitored.

(vii) Emission limitation for the monitored pollutant.

(viii) Date of latest CEMS certification or audit.

(ix) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

(x) A table summarizing the total duration of excess emissions, as defined at paragraphs (n)(7)(x)(A)–(B) of this section, for the reporting period broken down by the cause of those excess emissions (startup/shutdown, control equipment problems, process problems, other known causes, unknown causes), and the total percent of excess emissions (for all causes) for the reporting period calculated as described at paragraph (n)(7)(x)(C) of this section.

(A) For purposes of this section, an excess emission is defined as any 30-day rolling average period, including periods of startup, shutdown and malfunction, during which the 30-day rolling average emissions of either regulated pollutant (SO_2 and NO_X), as measured by a CEMS, exceeds the applicable emission standards in this section.

(B) For purposes of this section, if a facility calculates a 30-day rolling average emission rate in accordance with this section which exceeds the applicable emission standards of this section, then it will be considered 30 days of excess emissions. If the following 30-day rolling average emission rate is calculated and found to exceed the applicable emission standards of this section as well, then it will add one more day to the total days of excess emissions (i.e. 31 days). Similarly, if an excess emission is calculated for a 30-day rolling average period and no additional excess emissions are calculated until 15 days after the first, then that new excess emission will add 15 days to the total days of excess emissions (i.e. 30 + 15 = 45). For purposes of this section, if an excess emission is calculated for any period of time within a reporting period, there will be no fewer than 30 days of excess emissions but there should be no more than 121 days of excess emissions for a reporting period.

(C) For purposes of this section, the total percent of excess emissions will be determined by summing all periods of excess emissions (in days) for the reporting period, dividing that number by the total BART affected unit operating days for the reporting period, and then multiplying by 100 to get the total percent of excess emissions for the reporting period. An operating day, as defined previously, is any day during which fuel is fired in the BART affected unit for any period of time. Because of the possible overlap of 30-day rolling average excess emissions across quarters, there are some situations where the total percent of excess emissions could exceed 100 percent. This extreme situation would only result from serious excess emissions problems where excess emissions occur for nearly every day during a reporting period.

(xi) A table summarizing the total duration of monitor downtime, as defined at paragraph (n)(7)(xi)(A) of this section, for the reporting period broken down by the cause of the monitor downtime (monitor equipment malfunctions, non-monitor equipment malfunctions, quality assurance calibration, other known causes, unknown causes), and the total percent of monitor downtime (for all causes) for the reporting period calculated as described at paragraph (n)(7)(xi)(B) of this section.

(A) For purposes of this section, monitor downtime is defined as any period of time (in hours) during which the required monitoring system was not measuring emissions from the BART affected unit. This includes any period of CEMS QA/QC, daily zero and span checks, and similar activities.

(B) For purposes of this section, the total percent of monitor downtime will be determined by summing all periods of monitor downtime (in hours) for the reporting period, dividing that number by the total number of BART affected unit operating hours for the reporting period, and then multiplying by 100 to get the total percent of excess emissions for the reporting period.

(xii) A table which identifies each period of excess emissions for the reporting period and includes, at a minimum, the information in paragraphs (n)(7)(xii)(A)–(F) of this section.

(A) The date of each excess emission.

(B) The beginning and end time of each excess emission.

(C) The pollutant for which an excess emission occurred.

(D) The magnitude of the excess emission.

(E) The cause of the excess emission.

(F) The corrective action taken or preventative measures adopted to minimize or eliminate the excess emissions and prevent such excess emission from occurring again.

(xiii) A table which identifies each period of monitor downtime for the reporting period and includes, at a minimum, the information in paragraphs (n)(7)(xiii)(A)–(D) of this section.

(A) The date of each period of monitor downtime.

(B) The beginning and end time of each period of monitor downtime.

(C) The cause of the period of monitor downtime.

(D) The corrective action taken or preventative measures adopted for system repairs or adjustments to minimize or eliminate monitor downtime and prevent such downtime from occurring again.

(xiv) If there were no periods of excess emissions during the reporting period, then the excess emission report must include a statement which says there were no periods of excess emissions during this reporting period.

(xv) If there were no periods of monitor downtime, except for daily zero and span checks, during the reporting period, then the excess emission report must include a statement which says there were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

(8) The owner or operator of each CEMS required by this section must develop and submit for review and approval by the Regional Administrator a site specific monitoring plan. The purpose of this monitoring plan is to establish procedures and practices which will be implemented by the owner or operator in its effort to comply with the monitoring, recordkeeping and reporting requirements of this section. The monitoring plan must include, at a minimum, the information at paragraphs (n)(8)(i)–(x) of this section.

(i) Site specific information including the company name, address, and contact information.

(ii) The objectives of the monitoring program implemented and information describing how those objectives will be met.

(iii) Information on any emission factors used in conjunction with the CEMS required by this section to calculate emission rates and a description of how those emission factors were determined.

(iv) A description of methods to be used to calculate emission rates when CEMS data is not available due to downtime associated with QA/QC events.

(v) A description of the QA/QC program to be implemented by the owner or operator of CEMS required by this section. This can be the QA/QC program developed in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 3.

(vi) A list of spare parts for CEMS maintained on site for system maintenance and repairs.

(vii) A description of the procedures to be used to calculate 30-day rolling averages and an example calculation which shows the algorithms used by the CEMS to calculate 30-day rolling averages.

(viii) A sample of the document to be used for the quarterly excess emission reports required by this section.

(ix) A description of the procedures to be implemented to investigate root causes of excess emissions and monitor downtime and the proposed corrective actions to address potential root causes of excess emissions and monitor downtime.

(x) A description of the sampling and calculation methodology for determining the percent sulfur by weight as a monthly block average for coal used during that month.

Subpart Y—Minnesota

■ 3. Section 52.1235 is added to read as follows:

§ 52.1235 Regional haze.

(a) [Reserved]

(b)(1) *NO_X emission limits.* (i) United States Steel Corporation, Keetac: An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the Grate Kiln pelletizing furnace (EU030), beginning 3 years from March 8, 2013. However, for any 30, or more, consecutive days when only natural gas is used a limit of 1.2 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply.

(ii) Hibbing Taconite Company: An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the Line 1 pelletizing furnace (EU020) beginning 26 months from March 8, 2013. An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the Line 2 pelletizing furnace (EU021) beginning 38 months from March 8, 2013. An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the Line 3 pelletizing furnace (EU022) beginning 50 months from March 8, 2013. However, for any 30, or more, consecutive days when only natural gas is used at any Hibbing Taconite pelletizing furnace, a limit of 1.2 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to that furnace.

(iii) United States Steel Corporation, Minntac: An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to each of the five indurating furnaces (EU225, EU261, EU282, EU315, and EU334). The owner or operator shall comply with this NO_X emission limit beginning 12 months from March 8, 2013 for the Line 6 indurating furnace (EU315); 24 months from March 8, 2013 for the Line 7 indurating furnace (EU334); 36 months from March 8, 2013 for the Line 4 or Line 5 indurating furnace (EU261) or (EU282); 48 months from March 8, 2013 for the Line 5 or Line 4 indurating furnace (EU282) or (EU261); and 59 months from March 8, 2013 for the Line 3 indurating furnace (EU225). However, for any 30 or more consecutive days when only natural gas is used at any of Minntac's indurating furnaces, a limit of 1.2 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to that furnace.

(iv) United Taconite: An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the Line 1 pellet furnace (EU040) beginning 38 months from March 8, 2013. An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the Line 2 pellet furnace (EU042) beginning 26 months from March 8, 2013. However, for any 30, or more, consecutive days when only natural gas is used at either of United Taconites' Line 1 or Line 2 pellet furnaces, a limit of 1.2 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to that furnace.

(v) ArcelorMittal Minorca Mine: An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to the indurating furnace (EU026) beginning 26 months from March 8, 2013. However, for any 30, or more, consecutive days when only natural gas is used, a limit of 1.2 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply.

(vi) Northshore Mining Company-Silver Bay: An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to Furnace 11 (EU100/EU104) beginning 26 months from March 8, 2013. An emission limit of 1.5 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply to Furnace 12 (EU110/114) beginning 38 months from March 8, 2013. However, for any 30, or more, consecutive days when only natural gas is used at either Northshore Mining Furnace 11 or Furnace 12, a limit of 1.2 lbs NO_X/MMBtu, based on a 30-day rolling average, shall apply. An emission limit of 0.085 lbs/MMBtu, based on a 30-day rolling average, shall apply to Process Boiler #1 (EU003) and Process Boiler #2 (EU004) beginning 5 years from March 8, 2013. The 0.085 lbs/MMBtu emission limit for each process boiler applies at all times a unit is operating, including periods of start-up, shut-down and malfunction.

(2) *SO_2 emission limits.* (i) United States Steel Corporation, Keetac: An emission limit of 225 lbs SO_2/hr, based on a 30-day rolling average, shall apply to the Grate Kiln pelletizing furnace (EU030). Any coal burned at Keetac shall have a sulfur content of 0.60 percent sulfur by weight or less based on a monthly block average. The sampling and calculation methodology for determining the sulfur content of fuel must be described in the monitoring plan required at paragraph (e)(8)(x) of this section. Compliance with these requirements for EU030 is required beginning 3 months from March 8, 2013.

(ii) Hibbing Taconite Company: An aggregate emission limit of 247.8 lbs SO_2/hr shall apply to the three affected lines, EU020, EU021, and EU022. The SO_2 emission limits for these three pelletizing furnaces are based on a 30-day rolling average. Emissions resulting from the combustion of fuel oil are not included in the calculation of the 30-day rolling average. However, if any fuel oil is burned after the first day that SO_2 CEMS are required to be operational, then the information specified in (b)(2)(vii) must be submitted, for each calendar year, to the Regional Administrator no later than 30 days after the end of each calendar year so that a limit can be set. Compliance with the emission limits is required beginning 6 months from March 8, 2013. Within 20 months of March 8, 2013, the owner or operator may calculate a revised SO_2 limit based on one year of hourly CEMS emissions data reported in lbs SO_2/hr and submit such limit, calculations and CEMS data to EPA. This limit shall be set in terms of lbs

SO_2/hr, based on the following equations, with compliance to be determined on a 30-day rolling average.

$m=(n+1)*\alpha$

m = the rank of the ordered data point, when data is sorted smallest to largest

$n=\alpha$ number of data points

α = 0.95, to reflect the 95th percentile

If m is a whole number, then the limit, *UPL,* shall be computed as:

$UPL = X_m$,

Where:

$X=_m$ value of the m^{th} data point in terms of lbs SO_2/hr, when the data is sorted smallest to largest.

If m is not a whole number, the limit shall be computed by linear interpolation according to the following equation.

$$UPL = x_m = x_{m_i.m_d} = x_{m_i} + m_d \left(x_{m_i+1} - x_{m_i}\right)$$

Where:

$m=_i$ the integer portion of m, i.e., m truncated at zero decimal places, and

$m=_d$ the decimal portion of m

(iii) United States Steel Corporation, Minntac: An aggregate emission limit for indurating furnace Lines 3–7 (EU225, EU261, EU282, EU315, and EU334) of 498 lbs SO_2/hr shall apply when all lines are producing flux pellets. An aggregate emission limit of 630 lbs SO_2/hr shall apply to Lines 3–7 when Line 3–5 are producing acid pellets and Lines 6 and 7 are producing flux pellets. An aggregate emission limit of 800 lbs SO_2/hr shall apply to Lines 3–7 when all lines are producing acid pellets. The SO_2 emission limits are based on a 30-day rolling average and apply beginning 3 months from March 8, 2013. The emission limit for a given 30-day rolling average period is calculated using a weighted average as follows:

$$L_{30} = \frac{498n_f + 630n_{af} + 800n_a}{30}$$

Where:

L_{30} = the limit for a given 30 day averaging period

n_f = the number of days in the 30 day period that the facility is producing flux pellets on lines 3–7

n_{af} = the number of days in the 30 day period that the facility is producing acid pellets on lines 3–5 and flux pellets on lines 6 and 7

n_a = the number of days in the 30 day period that the facility is producing acid pellets on lines 3–7

Also, beginning 3 months from March 8, 2013, any coal burned at Minntac's Lines 3–7 shall have a sulfur content of 0.60 percent sulfur by weight or less based on a monthly block average. The sampling and calculation methodology for determining the sulfur content of fuel must be described in the monitoring plan required at paragraph (e)(8)(x) of this section.

(iv) United Taconite: An aggregate emission limit of 529.0 lbs SO_2/hr, based on a 30-day rolling average, shall apply to the Line 1 pellet furnace (EU040) and Line 2 pellet furnace (EU042) beginning 54 months from March 8, 2013. Also, beginning 54 months from March 8, 2013, any coal burned in the Line 1 or Line 2 pellet furnace shall have a sulfur content of 0.60 percent sulfur by weight or less based on a monthly block average. The sampling and calculation methodology for determining the sulfur content of fuel must be described in the monitoring plan required at paragraph (e)(8)(x) of this section.

(v) ArcelorMittal Minorca Mine: An emission limit of 38.16 lbs SO_2/hr, based on a 30-day rolling average, shall apply to the indurating furnace (EU026) beginning 6 months from March 8, 2013. This limit shall not apply when the unit is combusting fuel oil. However, if any fuel oil is burned after the first day that SO_2 CEMS are required to be operational, then the information specified in paragraph (b)(2)(vii) of this section must be submitted, for each calendar year, to the Regional Administrator no later than 30 days after the end of each calendar year so that a limit can be set. Within 20 months of March 8, 2013, the owner or operator may calculate a revised SO_2 limit based on one year of hourly CEMS emissions data reported in lbs SO_2/hr and submit such limit, calculations, and CEMS data to EPA. This limit shall be set in terms of lbs SO_2/hr, based on the following equations, with compliance to be determined on a 30-day rolling average.

$m = (n + 1) * \alpha$

m = the rank of the ordered data point, when data is sorted smallest to largest

n = number of data points

α = 0.95, to reflect the 95th percentile

If m is a whole number, then the limit, *UPL,* shall be computed as:

$UPL = X_m$,

Where:

x_m = value of the m^{th} data point in terms of lbs SO_2/hr, when the data is sorted smallest to largest

If m is not a whole number, the limit shall be computed by linear interpolation according to the following equation.

$$UPL = x_m = x_{m_i.m_d} = x_{m_i} + m_d \left(x_{m_i+1} - x_{m_i}\right)$$

Where:

m_i = the integer portion of m, i.e., m truncated at zero decimal places, and

m_α = the decimal portion of m

(vi) Northshore Mining Company—Silver Bay: An aggregate emission limit of 39.0 lbs SO_2/hr, based on a 30-day rolling average, shall apply to Furnace 11 (EU100/EU104) and Furnace 12 (EU110/EU114). Compliance with this limit is required within 6 months. Emissions resulting from the combustion of fuel oil are not included in the calculation of the 30-day rolling average. However, if any fuel oil is burned after the first day that SO_2 CEMS are required to be operational, then the information specified in paragraph (b)(2)(vii) of this section must be submitted, for each calendar year, to the Regional Administrator no later than 30 days after the end of each calendar year so that a limit can be set. Within 20 months of March 8, 2013, the owner or operator must calculate a revised SO_2 limit based on one year of hourly CEMS emissions data reported in lbs SO_2/hr and submit such limit, calculations and CEMS data to EPA. This limit shall be set in terms of lbs SO_2/hr, based on the following equations, with compliance to be determined on a 30-day rolling average.

$m = (n + 1) * \alpha$

m = the rank of the ordered data point, when data is sorted smallest to largest

n = number of data points

α = 0.95, to reflect the 95th percentile

If m is a whole number, then the limit, *UPL,* shall be computed as:

$UPL = X^m$,

Where:

x_m = value of the m^{th} data point in terms of lbs SO_2/hr, when the data is sorted smallest to largest

If m is not a whole number, the limit shall be computed by linear interpolation according to the following equation.

$$UPL = x_m = x_{m_i+m_d} = x_{m_i} + m_d\left(x_{m_i+1} - x_{m_i}\right)$$

Where:

m_i = the integer portion of m, i.e., m truncated at zero decimal places, and

$m\alpha$ = the decimal portion of m

(vii) Starting with the first day that SO_2 CEMS are required to be operational, for the facilities listed in paragraphs (b)(2)(i)–(b)(2)(vi) of this section, records shall be kept for any day during which fuel oil is burned (either alone or blended with other fuels) in one or more of a facility's indurating furnaces. These records must include, at a minimum, the gallons of fuel oil burned per hour, the sulfur content of the fuel oil, and the SO_2 emissions in pounds per hour. If any fuel oil is burned after the first day that SO_2 CEMS are required to be operational, then the records must be submitted, for each calendar year, to the Regional Administrator no later than 30 days after the end of each calendar year.

(c) *Testing and monitoring.* (1) The owner or operator of the respective facility shall install, certify, calibrate, maintain and operate Continuous Emissions Monitoring Systems (CEMS) for NO_X on United States Steel Corporation, Keetac unit EU030; Hibbing Taconite Company units EU020, EU021, and EU022; United States Steel Corporation, Minntac units EU225, EU261, EU282, EU315, and EU334; United Taconite units EU040 and EU042; ArcelorMittal Minorca Mine unit EU026; and Northshore Mining Company—Silver Bay units Furnace 11 (EU100/EU104) and Furnace 12 (EU110/EU114). Compliance with the emission limits for NO_X shall be determined using data from the CEMS.

(2) The owner or operator shall install, certify, calibrate, maintain and operate CEMS for SO_2 on United States Steel Corporation, Keetac unit EU030; Hibbing Taconite Company units EU020, EU021, and EU022; United States Steel Corporation, Minntac units EU225, EU261, EU282, EU315, and EU334; United Taconite units EU040 and EU042; ArcelorMittal Minorca Mine unit EU026; and Northshore Mining Company—Silver Bay units Furnace 11 (EU100/EU104) and Furnace 12 (EU110/EU114).

(3) The owner or operator shall install, certify, calibrate, maintain and operate one or more continuous diluent monitor(s) (O_2 or CO_2) and continuous flow rate monitor(s) on the BART affected units to allow conversion of the NO_X and SO_2 concentrations to units of the standard (lbs/MMBtu and lbs/hr, respectively) unless a demonstration is made that a diluent monitor and continuous flow rate monitor are not needed for the owner or operator to demonstrate compliance with applicable emission limits in units of the standards.

(4) For purposes of this section, all CEMS required by this section must meet the requirements of paragraphs (c)(4)(i)–(xiv) of this section.

(i) All CEMS must be installed, certified, calibrated, maintained, and operated in accordance with 40 CFR Part 60, Appendix B, Performance Specification 2 (PS–2) and Appendix F, Procedure 1.

(ii) All CEMS associated with monitoring NO_X (including the NO_X monitor and necessary diluent and flow rate monitors) must be installed and operational no later than the unit specific compliance dates for the emission limits identified at paragraphs (b)(1)(i)–(vi) of this section. All CEMS associated with monitoring SO_2 (except the CEMS associated with monitoring SO_2 at United Taconite Line 1 and Line 2 pellet furnaces) must be installed and operational no later than six months after March 8, 2013. All CEMs associated with monitoring SO_2 at United Taconite Line 1 and Line 2 pellet furnaces must be installed and operational no later than 54 months from March 8, 2013. Verification of the CEMS operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the devices.

(iii) The owner or operator must conduct a performance evaluation of each CEMS in accordance with 40 CFR Part 60, Appendix B, PS–2. The performance evaluations must be completed no later than 60 days after the respective CEMS installation.

(iv) The owner or operator of each CEMS must conduct periodic Quality Assurance, Quality Control (QA/QC) checks of each CEMS in accordance with 40 CFR Part 60, Appendix F, Procedure 1. The first CEMS accuracy test will be a relative accuracy test audit (RATA) and must be completed no later than 60 days after the respective CEMS installation.

(v) The owner or operator of each CEMS must furnish the Regional Administrator two, or upon request, more copies of a written report of the results of each performance evaluation and QA/QC check within 60 days of completion.

(vi) The owner or operator of each CEMS must check, record, and quantify the zero and span calibration drifts at least once daily (every 24 hours) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 4.

(vii) Except for CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS required by this section shall be in continuous operation during all periods of BART affected process unit operation, including periods of process unit startup, shutdown, and malfunction.

(viii) All CEMS required by this section must meet the minimum data requirements at paragraphs (c)(4)(viii)(A)–(C) of this section.

(A) Complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute quadrant of an hour.

(B) Sample, analyze and record emissions data for all periods of process operation except as described in paragraph (c)(4)(viii)(C) of this section.

(C) When emission data from CEMS are not available due to continuous monitoring system breakdowns, repairs, calibration checks, or zero and span adjustments, emission data must be obtained using other monitoring systems or emission estimation methods approved by the EPA. The other monitoring systems or emission estimation methods to be used must be incorporated into the monitoring plan required by this section and provide information such that emissions data are available for a minimum of 18 hours in each 24 hour period and at least 22 out of 30 successive unit operating days.

(ix) Owners or operators of each CEMS required by this section must reduce all data to 1-hour averages. Hourly averages shall be computed using all valid data obtained within the hour but no less than one data point in each fifteen-minute quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a

minimum of 15 minutes (where the unit operates for more than one quadrant in an hour) if data are unavailable as a result of performance of calibration, quality assurance, preventive maintenance activities, or backups of data from data acquisition and handling systems, and recertification events.

(x) The 30-day rolling average emission rate determined from data derived from the CEMS required by this section (in lbs/MMBtu or lbs/hr depending on the emission standard selected) must be calculated in accordance with paragraphs (c)(4)(x)(A)–(F) of this section.

(A) Sum the total pounds of the pollutant in question emitted from the Unit during an operating day and the previous twenty-nine operating days.

(B) Sum the total heat input to the unit (in MMBtu) or the total actual hours of operation (in hours) during an operating day and the previous twenty-nine operating days.

(C) Divide the total number of pounds of the pollutant in question emitted during the thirty operating days by the total heat input (or actual hours of operation depending on the emission limit selected) during the thirty operating days.

(D) For purposes of this calculation, an operating day is any day during which fuel is combusted in the BART affected Unit regardless of whether pellets are produced. Actual hours of operation are the total hours a unit is firing fuel regardless of whether a complete 24-hour operational cycle occurs (i.e. if the furnace is firing fuel for only 5 hours during a 24-hour period, then the actual operating hours for that day are 5. Similarly, total number of pounds of the pollutant in question for that day is determined only from the CEMS data for the five hours during which fuel is combusted.)

(E) If the owner or operator of the CEMS required by this section uses an alternative method to determine 30-day rolling averages, that method must be described in detail in the monitoring plan required by this section. The alternative method will only be applicable if the final monitoring plan and the alternative method are approved by EPA.

(F) A new 30-day rolling average emission rate must be calculated for each new operating day.

(xi) The 30-day rolling average removal efficiency determined from data derived from the CEMS required by this section must be calculated in accordance with paragraphs (c)(4)(xi)(A)–(G) of this section.

(A) Calculate the 30-day rolling average emission rate described in paragraphs (c)(4)(x)(A)–(F) of this section at the inlet of the control device.

(B) Calculate the 30-day rolling average emission rate described in paragraphs (c)(4)(x)(A)–(F) of this section at the outlet of the control device.

(C) Subtract the 30-day rolling average emission rate determined at the outlet of the control device from the 30-day rolling average emission rate determined at the inlet of the control device.

(D) Divide the result of paragraph (c)(4)(xi)(C) of this section by the 30-day rolling average emission rate determined at the inlet.

(E) Multiply the result of paragraph (c)(4)(xi)(D) of this section by 100 to determine the 30-day rolling average removal efficiency.

(F) If the owner or operator of the CEMS required by this section uses an alternative method to determine the 30-day rolling average removal efficiency, that method must be described in detail in the monitoring plan required by this section. The alternative method will only be applicable if the final monitoring plan and the alternative method are approved by EPA.

(G) A new 30-day rolling average removal efficiency must be calculated for each new operating day.

(xii) Data substitution must not be used for purposes of determining compliance under this section.

(xiii) All CEMS data shall be reduced and reported in units of the applicable standard.

(xiv) A Quality Control Program must be developed and implemented for all CEMS required by this section in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 3. The program will include, at a minimum, written procedures and operations for calibration checks, calibration drift adjustments, preventative maintenance, data collection, recording and reporting, accuracy audits/procedures, periodic performance evaluations, and a corrective action program for malfunctioning CEMS.

(5) No later than the compliance date of this section, owners or operators utilizing a wet scrubber to control SO_2 shall include in the performance testing an evaluation of compliance with the pH limits established by this section. The pH evaluation shall be performed in accordance with the requirements of 40 CFR 136.3 using EPA Method 150.2.

(d) *Recordkeeping requirements.* (1)(i) Records required by this section must be kept in a form suitable and readily available for expeditious review.

(ii) Records required by this section must be kept for a minimum of 5 years following the date of creation.

(iii) Records must be kept on site for at least 2 years following the date of creation and may be kept offsite, but readily accessible, for the remaining 3 years.

(2) The owner or operator of the BART affected units must maintain the records at paragraphs (d)(2)(i)–(xi) of this section.

(i) A copy of each notification and report developed for and submitted to comply with this section including all documentation supporting any initial notification or notification of compliance status submitted according to the requirements of this section.

(ii) Records of the occurrence and duration of startup, shutdown, and malfunction of the BART affected units, air pollution control equipment, and CEMS required by this section.

(iii) Records of activities taken during each startup, shutdown, and malfunction of the BART affected unit, air pollution control equipment, and CEMS required by this section.

(iv) Records of the occurrence and duration of all major maintenance conducted on the BART affected units, air pollution control equipment, and CEMS required by this section.

(v) Records of each excess emission report, including all documentation supporting the reports, dates and times when excess emissions occurred, investigations into the causes of excess emissions, actions taken to minimize or eliminate the excess emissions, and preventative measures to avoid the cause of excess emissions from occurring again.

(vi) Records of all CEMS data including, as a minimum, the date, location, and time of sampling or measurement, parameters sampled or measured, and results.

(vii) All records associated with quality assurance and quality control activities on each CEMS as well as other records required by 40 CFR Part 60, Appendix F, Procedure 1 including, but not limited to, the quality control program, audit results, and reports submitted as required by this section.

(viii) Records of the NO_X emissions during all periods of BART affected unit operation, including startup, shutdown and malfunction in the units of the standard. The owner or operator shall convert the monitored data into the appropriate unit of the emission limitation using appropriate conversion factors and F-factors. F-factors used for purposes of this section shall be documented in the monitoring plan and developed in accordance with 40 CFR

Part 60, Appendix A, Method 19. The owner or operator may use an alternate method to calculate the NO_X emissions upon written approval from EPA.

(ix) Records of the SO_2 emissions or records of the removal efficiency (based on CEMS data), depending on the emission standard selected, during all periods of operation, including periods of startup, shutdown and malfunction, in the units of the standard.

(x) Records associated with the CEMS unit including type of CEMS, CEMS model number, CEMS serial number, and initial certification of each CEMS conducted in accordance with 40 CFR Part 60, Appendix B, Performance Specification 2 must be kept for the life of the CEMS unit.

(xi) Records of all periods of fuel oil usage as required at paragraph (b)(2)(vi) of this section.

(e) *Reporting requirements.* (1) All requests, reports, submittals, notifications, and other communications to the Regional Administrator required by this section shall be submitted, unless instructed otherwise, to the Air and Radiation Division, U.S. Environmental Protection Agency, Region 5 (A–18J), at 77 West Jackson Boulevard, Chicago, Illinois 60604.

(2) The owner or operator of each BART affected unit identified in this section and CEMS required by this section must provide to the Regional Administrator the written notifications, reports and plans identified at paragraphs (e)(2)(i)–(viii) of this section. If acceptable to both the Regional Administrator and the owner or operator of each BART affected unit identified in this section and CEMS required by this section the owner or operator may provide electronic notifications, reports and plans.

(i) A notification of the date construction of control devices and installation of burners required by this section commences postmarked no later than 30 days after the commencement date.

(ii) A notification of the date the installation of each CEMS required by this section commences postmarked no later than 30 days after the commencement date.

(iii) A notification of the date the construction of control devices and installation of burners required by this section is complete postmarked no later than 30 days after the completion date.

(iv) A notification of the date the installation of each CEMS required by this section is complete postmarked no later than 30 days after the completion date.

(v) A notification of the date control devices and burners installed by this section startup postmarked no later than 30 days after the startup date.

(vi) A notification of the date CEMS required by this section startup postmarked no later than 30 days after the startup date.

(vii) A notification of the date upon which the initial CEMS performance evaluations are planned. This notification must be submitted at least 60 days before the performance evaluation is scheduled to begin.

(viii) A notification of initial compliance, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the requirements of this section, including, but not limited to, applicable emission standards, control device and burner installations, CEMS installation and certification. This notification must be submitted before the close of business on the 60th calendar day following the completion of the compliance demonstration and must include, at a minimum, the information at paragraphs (e)(2)(viii)(A)–(F) of this section.

(A) The methods used to determine compliance.

(B) The results of any CEMS performance evaluations, and other monitoring procedures or methods that were conducted.

(C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods.

(D) The type and quantity of air pollutants emitted by the source, reported in units of the standard.

(E) A description of the air pollution control equipment and burners installed as required by this section, for each emission point.

(F) A statement by the owner or operator as to whether the source has complied with the relevant standards and other requirements.

(3) The owner or operator must develop and implement a written startup, shutdown, and malfunction plan for NO_X and SO_2. The plan must include, at a minimum, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for a malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. The plan must ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize or eliminate emissions using good air pollution control practices. The plan must ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence.

(4) The written reports of the results of each performance evaluation and QA/QC check in accordance with and as required by paragraph (c)(4)(v) of this section.

(5) *Compliance reports.* The owner or operator of each BART affected unit must submit semiannual compliance reports. The semiannual compliance reports must be submitted in accordance with paragraphs (e)(5)(i) through (iv) of this section, unless the Administrator has approved a different schedule.

(i) The first compliance report must cover the period beginning on the compliance date that is specified for the affected source through June 30 or December 31, whichever date comes first after the compliance date that is specified for the affected source.

(ii) The first compliance report must be postmarked no later than 30 calendar days after the reporting period covered by that report (July 30 or January 30), whichever comes first.

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be postmarked no later than 30 calendar days after the reporting period covered by that report (July 30 or January 30).

(6) *Compliance report contents.* Each compliance report must include the information in paragraphs (e)(6)(i) through (vi) of this section.

(i) Company name and address.

(ii) Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) Identification of the process unit, control devices, and CEMS covered by the compliance report.

(v) A record of each period of startup, shutdown, or malfunction during the reporting period and a description of the actions the owner or operator took to minimize or eliminate emissions arising as a result of the startup, shutdown, or malfunction and whether those actions were or were not consistent with the source's startup, shutdown, and malfunction plan.

(vi) A statement identifying whether there were or were not any deviations from the requirements of this section

during the reporting period. If there were deviations from the requirements of this section during the reporting period, then the compliance report must describe in detail the deviations which occurred, the causes of the deviations, actions taken to address the deviations, and procedures put in place to avoid such deviations in the future. If there were no deviations from the requirements of this section during the reporting period, then the compliance report must include a statement that there were no deviations. For purposes of this section, deviations include, but are not limited to, emissions in excess of applicable emission standards established by this section, failure to continuously operate an air pollution control device in accordance with operating requirements designed to assure compliance with emission standards, failure to continuously operate CEMS required by this section, and failure to maintain records or submit reports required by this section.

(7) Each owner or operator of a CEMS required by this section must submit quarterly excess emissions and monitoring system performance reports for each pollutant monitored for each BART affected unit monitored. All reports must be postmarked by the 30th day following the end of each three-month period of a calendar year (January–March, April–June, July–September, October–December) and must include, at a minimum, the requirements at paragraphs (e)(7)(i)–(xv) of this section.

(i) Company name and address.

(ii) Identification and description of the process unit being monitored.

(iii) The dates covered by the reporting period.

(iv) Total source operating hours for the reporting period.

(v) Monitor manufacturer, monitor model number and monitor serial number.

(vi) Pollutant monitored.

(vii) Emission limitation for the monitored pollutant.

(viii) Date of latest CEMS certification or audit.

(ix) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

(x) A table summarizing the total duration of excess emissions, as defined at paragraphs (e)(7)(x)(A)–(B) of this section, for the reporting period broken down by the cause of those excess emissions (startup/shutdown, control equipment problems, process problems, other known causes, unknown causes), and the total percent of excess emissions (for all causes) for the reporting period calculated as described at paragraph (e)(7)(x)(C) of this section.

(A) For purposes of this section, an excess emission is defined as any 30-day rolling average period, including periods of startup, shutdown and malfunction, during which the 30-day rolling average emissions of either regulated pollutant (SO_2 and NO_X), as measured by a CEMS, exceeds the applicable emission standards in this section.

(B) For purposes of this section, if a facility calculates a 30-day rolling average emission rate in accordance with this section which exceeds the applicable emission standards of this section, then it will be considered 30 days of excess emissions. If the following 30-day rolling average emission rate is calculated and found to exceed the applicable emission standards of this section as well, then it will add one more day to the total days of excess emissions (i.e. 31 days). Similarly, if an excess emission is calculated for a 30-day rolling average period and no additional excess emissions are calculated until 15 days after the first, then that new excess emission will add 15 days to the total days of excess emissions (i.e. 30 + 15 = 45). For purposes of this section, if an excess emission is calculated for any period of time within a reporting period, there will be no fewer than 30 days of excess emissions but there should be no more than 121 days of excess emissions for a reporting period.

(C) For purposes of this section, the total percent of excess emissions will be determined by summing all periods of excess emissions (in days) for the reporting period, dividing that number by the total BART affected unit operating days for the reporting period, and then multiplying by 100 to get the total percent of excess emissions for the reporting period. An operating day, as defined previously, is any day during which fuel is fired in the BART affected unit for any period of time. Because of the possible overlap of 30-day rolling average excess emissions across quarters, there are some situations where the total percent of excess emissions could exceed 100 percent. This extreme situation would only result from serious excess emissions problems where excess emissions occur for nearly every day during a reporting period.

(xi) A table summarizing the total duration of monitor downtime, as defined at paragraph (e)(7)(xi)(A) of this section, for the reporting period broken down by the cause of the monitor downtime (monitor equipment malfunctions, non-monitor equipment malfunctions, quality assurance calibration, other known causes, unknown causes), and the total percent of monitor downtime (for all causes) for the reporting period calculated as described at paragraph (e)(7)(xi)(B) of this section.

(A) For purposes of this section, monitor downtime is defined as any period of time (in hours) during which the required monitoring system was not measuring emissions from the BART affected unit. This includes any period of CEMS QA/QC, daily zero and span checks, and similar activities.

(B) For purposes of this section, the total percent of monitor downtime will be determined by summing all periods of monitor downtime (in hours) for the reporting period, dividing that number by the total number of BART affected unit operating hours for the reporting period, and then multiplying by 100 to get the total percent of excess emissions for the reporting period.

(xii) A table which identifies each period of excess emissions for the reporting period and includes, at a minimum, the information in paragraphs (e)(7)(xii)(A)–(F) of this section.

(A) The date of each excess emission.

(B) The beginning and end time of each excess emission.

(C) The pollutant for which an excess emission occurred.

(D) The magnitude of the excess emission.

(E) The cause of the excess emission.

(F) The corrective action taken or preventative measures adopted to minimize or eliminate the excess emissions and prevent such excess emission from occurring again.

(xiii) A table which identifies each period of monitor downtime for the reporting period and includes, at a minimum, the information in paragraphs (e)(7)(xiii)(A)–(D) of this section.

(A) The date of each period of monitor downtime.

(B) The beginning and end time of each period of monitor downtime.

(C) The cause of the period of monitor downtime.

(D) The corrective action taken or preventative measures adopted for system repairs or adjustments to minimize or eliminate monitor downtime and prevent such downtime from occurring again.

(xiv) If there were no periods of excess emissions during the reporting period, then the excess emission report must include a statement which says there were no periods of excess emissions during this reporting period.

(xv) If there were no periods of monitor downtime, except for daily zero

and span checks, during the reporting period, then the excess emission report must include a statement which says there were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

(8) The owner or operator of each CEMS required by this section must develop and submit for review and approval by the Regional Administrator a site specific monitoring plan. The purpose of this monitoring plan is to establish procedures and practices which will be implemented by the owner or operator in its effort to comply with the monitoring, recordkeeping and reporting requirements of this section. The monitoring plan must include, at a minimum, the information at paragraphs (e)(8)(i)–(x) of this section.

(i) Site specific information including the company name, address, and contact information.

(ii) The objectives of the monitoring program implemented and information describing how those objectives will be met.

(iii) Information on any emission factors used in conjunction with the CEMS required by this section to calculate emission rates and a description of how those emission factors were determined.

(iv) A description of methods to be used to calculate emission rates when CEMS data is not available due to downtime associated with QA/QC events.

(v) A description of the QA/QC program to be implemented by the owner or operator of CEMS required by this section. This can be the QA/QC program developed in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 3.

(vi) A list of spare parts for CEMS maintained on site for system maintenance and repairs.

(vii) A description of the procedures to be used to calculate 30-day rolling averages and an example calculation which shows the algorithms used by the CEMS to calculate 30-day rolling averages.

(viii) A sample of the document to be used for the quarterly excess emission reports required by this section.

(ix) A description of the procedures to be implemented to investigate root causes of excess emissions and monitor downtime and the proposed corrective actions to address potential root causes of excess emissions and monitor downtime.

(x) A description of the sampling and calculation methodology for determining the percent sulfur by weight as a monthly block average for coal used during that month.

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