



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R05-OAR-2010-0037; FRL-10019-32-Region 5]

**Air Plan Approval; Minnesota; Revision to Taconite Federal
Implementation Plan**

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is revising a Federal implementation plan (FIP) addressing the requirement for best available retrofit technology (BART) for the United States Steel Corporation's (U.S. Steel) taconite plant located in Mt. Iron, Minnesota (Minntac or Minntac facility). We are revising the nitrogen oxides (NO_x) limits for U.S. Steel's taconite furnaces at its Minntac facility because new information has come to light that was not available when we originally promulgated the FIP on February 6, 2013. The EPA is finalizing this action pursuant to sections 110 and 169A of the Clean Air Act (CAA or the Act).

DATES: This final rule is effective **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2010-0037. All documents in the docket are listed in the <http://www.regulations.gov> Web site. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information 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 through <http://www.regulations.gov> or at the EPA Region 5 office (please contact the person identified in the "**FOR FURTHER INFORMATION CONTACT**" section for availability information).

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

I. Background Information

On February 6, 2013, EPA promulgated a FIP that included BART limits for certain taconite furnaces in Minnesota and Michigan (2013 Taconite FIP; 78 FR 8706). On February 4, 2020, EPA proposed to revise the 2013 Taconite FIP with respect to the NO_x BART emission limitations and compliance schedules for U.S. Steel's Minntac facility in Minnesota. (85 FR 6125).

Specifically, EPA proposed that an aggregate emission limit of 1.6 lbs NO_x per million British Thermal Unit (MMBtu), based on a 30-day rolling average, averaged across Minntac's five production lines, represents NO_x BART for the Minntac facility. An explanation of the CAA requirements, a detailed analysis of how

these requirements apply to U.S. Steel's Minntac facility, and EPA's reasons for proposing the revised limit and compliance schedule were provided in the notice of proposed rulemaking (NPRM) and will not be restated here. The public comment period for this proposed rule ended on March 5, 2020.

One commenter stated that EPA did not provide information regarding a public hearing and did not ask the public if they were interested in a public hearing. To address this comment, EPA held a virtual public hearing on October 14, 2020, and reopened the public comment period. The second comment period closed on November 13, 2020. The commenter also stated that EPA did not demonstrate that the agency consulted with Federal Land Managers (FLMs) regarding the proposed FIP revision. In response to this comment, EPA engaged with the FLMs on the revision to the taconite FIP for Minntac. The FLMs have indicated that they have no comments on the FIP revision.

II. Public Comments

During the first comment period EPA received adverse comments submitted on behalf of the National Parks Conservation Association and the Minnesota Center for Environmental Advocacy, an adverse comment submitted anonymously, and a comment from a private citizen in support of the February 4, 2020 proposal. We also received an anonymous comment that addresses subjects outside the scope of our proposed action. The adverse comments are summarized and addressed below. No one presented testimony at the October 14, 2020 virtual public hearing. The transcript

of the hearing is available in the docket. We received no comments during the second comment period.

Comment 1: The 2013 FIP included case-by-case determinations and emission limits for each of the BART units at Minntac, as follows: 1.2 lbs NO_x/ MMBtu when burning natural gas and 1.5 lbs NO_x/MMBtu when co-firing coal and natural gas. This was done in accordance with the CAA where BART is defined as "an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility." This emission limit is to be established on a case-by-case basis after considering the five statutory factors.

EPA's 2020 proposal would provide a single facility-wide NO_x BART limit of 1.6 lbs/MMBtu that will apply on a rolling 30-day basis. Contrary to the CAA and BART Guidelines, for each Minntac source subject to BART, EPA abandons its 2013 BART determination and now proposes a FIP revision that neglects its obligation to ensure limits reflect BART emission rates that are of the appropriate type and level for each source subject to BART. Without revised individual BART determinations for each of the five Minntac units EPA cannot demonstrate that reductions achieved by the facility-wide limit will be equal to the reductions obtained by controlling the individual units. While the Minntac Spreadsheet in the docket contains information on 95th and 99th percentile and highest 720-hour averages, it seems

EPA decided to ignore the percentile values, and rather propose U.S. Steel's averaging approach.

Response: The August 15, 2012 Proposed FIP (77 FR 49312-49313) included a five-step BART analysis for Minntac's five lines (Lines 3-7). The five-step analysis was conducted in accordance with the BART Guidelines, appendix Y to 40 CFR part 51. EPA proposed BART emission limits of 1.2 lbs NO_x/MMBtu measured on a 30-day rolling average based on the use of low NO_x burners. EPA's analysis and proposed determination that BART is based upon the use of low NO_x burners remains valid. In the February 6, 2013 Final FIP (78 FR 8706), based on a comment from U.S. Steel regarding the appropriate emission limit when burning solid fuels and supplementary data submitted by U.S. Steel on October 15, 2012,¹ EPA finalized a limit for each of Minntac's five lines of 1.5 lbs NO_x/MMBtu measured on a 30-day rolling average; however, a limit of 1.2 lbs NO_x/MMBtu measured on a 30-day rolling average would apply for any 30 or more consecutive days when only natural gas is used. The final 2013 FIP limits reflected what EPA determined could be reasonably achieved by the use of low NO_x burners at taconite furnaces based on the limited emission data available.

At the time EPA promulgated the BART emission limits for Minntac, low NO_x burners had only been in operation on Minntac Lines 6 and 7 since April 2011 and May 2010, respectively, and

¹ See "US Steel Comments - Proposed FIP MN and MI" and "10-15-2012 email from C. Bartovich to S. Rosenthal" and attachments, included in the docket.

there were very little emission data available upon which to base a limit. Since promulgation of the FIP, however, U.S. Steel submitted continuous emission monitoring system (CEMS) data demonstrating that despite having optimized each burner,² Minntac is unable to comply with the 1.2 lbs NO_x/MMBtu limit at all times when burning only natural gas.

EPA continues to rely on the BART analysis set forth in the August 15, 2012 proposal concerning the selection of low NO_x burners as the appropriate BART technology. However, since EPA promulgated the BART limits for Minntac, U.S. Steel has continued to operate low NO_x burners on Lines 6 and 7 and has installed low NO_x burners on Lines 4 and 5.³ There are significantly more data available from which to determine whether the BART FIP emission limits are actually achievable through the utilization of low NO_x burners at Minntac. To reevaluate the emission limit achievable by use of low NO_x burners, EPA analyzed available hourly CEMS data showing emissions in lbs NO_x/MMBtu by fuel type. These data were available for the 2012-2017 time period. From this data set, EPA then compiled the emission data available for each line after the installation of low NO_x burners. For Line 4, this included data from December 15, 2016 through November 19, 2017.

² See "IV.F. U.S. Steel Minntac Line 6 Low NO_x Burner Final Report, December 1, 2011," "III.F. U.S. Steel Minntac 9.m. U.S. Steel Minntac Line 7 Burner Final Report, May 13, 2011," and "Final Report Line 4 Burner 092917," included in the docket.

³ U.S. Steel installed low NO_x burners on Lines 4 and 5 on December 15, 2016, and December 20, 2015, respectively.

For Line 5, this included data from December 12, 2015 through November 11, 2017. For Lines 6 and 7, emission data were available from May 8, 2012 and April 27, 2012 through November 11, 2017, respectively. There are necessarily differing amounts of CEMS data for each line since the low NO_x burners were installed at different times.

To ensure that any revised emission limit would be based upon emission reduction capabilities during normal operations, EPA excluded hours when a line was idle, when a measurement error was recorded, or when process or CEMS codes indicated anything other than normal operation. For each line, EPA separated hours when only natural gas was burned from hours when the line was co-fired with coal (Lines 6 and 7) or co-fired with biomass (Lines 4 and 5). EPA then calculated 720-hour rolling averages based upon fuel type.⁴ To establish an achievable emission limit, EPA assessed the highest 720-hour average, the 99th percentile 720-hour average, and the 95th percentile 720-hour average.⁵ The 99th percentile is the emission rate that the source would be predicted to be below during 99 out of 100 720-

⁴ Operations at Minntac in a given 30-day period, or even a single day, may in some cases involve both operation with only natural gas and operation with at least some firing of solid fuels. To be able to evaluate emissions from all hours when different fuels were used within a 30-day period, rather than only the times when a line used solely natural gas or solely co-fired for 30 consecutive days, EPA evaluated emissions based on 720-hour averages. Note that operations are typically 24 hours per day and 720 is the number of hours in a 30-day period.

⁵ See "Lines 3, 4, and 5 Data-L4_7 NO_x CEMS Data files combined," included in the docket.

hour averages. The 95th percentile is the emission rate that the source would be predicted to be below during 95 out of 100 720-hour averages. The highest 720-hour average is the emission rate at which the source would be predicted to be able maintain continual compliance.

Under the BART Guidelines, a source may be permitted to average emissions across a set of BART-eligible emission units within a fenceline, so long as the emission reductions from each pollutant being controlled for BART would be equal to those reductions that would be obtained by simply controlling each of the BART-eligible units that constitute the BART-eligible source. See 40 CFR part 51, appendix Y, at V. U.S. Steel expressed interest in utilizing this option. As shown in Table 1 below, averaging the individual limits across Lines 4 through 7 for natural gas results in a combined emissions limit of 1.6 lbs NO_x/MMBtu averaged over 720 hours, regardless of whether the single line emission limit basis for the cross-line average was the highest 720-hour average, the 99th percentile 720-hour average, or the 95th percentile 720-hour average.

Table 1. Individual line and cross-line averaging emission rates for Lines 4 through 7.

	Fuel	High 720-hr Average lbs NO _x /MMBtu	99% 720-hr Average lbs NO _x /MMBtu	95% 720-hr Average lbs NO _x /MMBtu
Line 4	Natural Gas	1.5	1.5	1.5
	All Fuels	1.5	1.4	1.4
Line 5	Natural Gas	1.4	1.4	1.4
	All Fuels	1.4	1.4	1.3
Line 6	Natural Gas	1.7	1.6	1.6
	All Fuels	1.7	1.6	1.4
Line 7	Natural Gas	1.9	1.8	1.8
	All Fuels	1.9	1.8	1.7
Cross-line Average	Natural Gas	1.6	1.6	1.6
	All Fuels	1.6	1.6	1.5

While Line 3 will not become subject to the FIP limits until July 2021, U.S. Steel has indicated that, when compared to the other lines, the Line 3 burner is most similar to Line 4. Line 4 is more similar in age, size and design to Line 3 than the other lines. Line 3 utilizes the same fuels (natural gas and biomass) as Line 4, and both Lines are managed by the same control room operators. In addition, operating parameters on Line 3 are similar to Line 4 for such measured parameters as Kiln Exit Temperature, Preheat Zone Temperature, Burner Temperature, and Pellet Residence time on the grate and in the kiln. Absent an engineering study for Line 3, using the emission rates for Line 4 as an estimate of the emission rates that would be expected after installation of a low NO_x burner on Line 3 is reasonable. Therefore, EPA also calculated a cross-line average considering actual emissions from all four lines currently utilizing low NO_x burners (Lines 4 through 7), as well as the expected emissions from Line 3. The resulting cross-line

average is 1.6 lbs NO_x/MMBtu averaged over 720 hours, regardless of selection of statistical analyses at the 99th or 95th percentiles, or highest 720-hour average.

While the 1.6 lbs NO_x/MMBtu limit for Minntac is reflective of natural gas emission data, in response to the comment received, EPA calculated 720-hour rolling averages for each line over the entire period without separating fuel types. As provided in Table 1, the data analysis showed that the cross-line averages at the highest 720-hour average across all data and also at the 99th percentile is 1.6 lbs NO_x/MMBtu, and at the 95th percentile is 1.5 lbs NO_x/MMBtu. In addition, review of the CEMS data shows that U.S. Steel has largely transitioned toward firing with natural gas and away from co-firing with coal and natural gas. U.S. Steel stated that it "has been primarily combusting natural gas since December 2016."⁶ As previously stated, only two of Minntac's five lines (Lines 6 and 7) are capable of burning coal, and CEMS data show that U.S. Steel has largely shifted its operations on Lines 6 and 7 away from co-firing with coal and natural gas and toward firing exclusively natural gas. While Lines 6 and 7 co-fired with coal and natural gas 85% of the time in 2012, these lines co-fired with coal and natural gas only 3% of the time in 2017.⁷

EPA has determined that the 1.6 lbs NO_x/MMBtu cross-line emission limit constitutes the appropriate BART emission limit

⁶ See Redacted "U. S. Steel Confidential Settlement Communication – Subject to FRE 408," May 1, 2018, included in the docket.

⁷ See "Minntac CEMS Data and Analysis," included in the docket.

for Minntac Lines 3 through 7, regardless of fuel type. As previously discussed, the BART Guidelines provide that a source may be permitted to average emissions across a set of BART-eligible units within a fenceline, so long as the emission reductions from each pollutant controlled for BART would be equal to those reductions that would be obtained by separately controlling each of the BART-eligible units that constitute the BART-eligible source. 40 CFR part 51, appendix Y, at V.

Minntac Lines 3, 4, 5, 6, and 7 are all BART-eligible units that constitute a BART-eligible source within a fenceline. When averaging the level of NO_x emission reductions achievable on each of Minntac Lines 3 through 7 individually, the resulting limit is 1.6 lbs NO_x/MMBtu when burning natural gas. Therefore, it is reasonable for EPA to establish a single cross-line average emission limit of 1.6 lbs NO_x/MMBtu, to apply at all times, for Minntac Lines 3 through 7. 1.6 lbs NO_x/MMBtu is the most stringent limit the facility can consistently meet while providing for operational flexibility with regard to fuel choice, including burning exclusively natural gas.

Comment 2: EPA's proposal lacks alternative BART emission limits based on the type of fuel each line will burn under the FIP. Although the BART Guidelines are fuel-neutral, where a source wants to operate under different scenarios and burn different fuels that create different levels of BART pollutant emissions, EPA must first set alternative BART emission limits for each unit based on fuel use. EPA's 2013 FIP promulgated two

BART emission limits based on fuel use, which apply to all five BART units: a limit when burning natural gas, and second limit when co-firing coal and natural gas. The record indicates the BART units historically used a variety of fuels, which included: coal; wood; co-firing; biomass; and natural gas. EPA's proposed facility-wide BART limit relies on emission data collected when only one fuel was used, natural gas. EPA fails to analyze the range of fuels burned at Minntac and how the fuel burned impacts revising the prior BART determinations.

Response: EPA disagrees with the commenter's contention that EPA must set alternative BART emission limits for each unit based on fuel use. Neither the CAA nor the regional haze rule requires EPA to establish separate BART limits based on fuel type. While the 1.6 lbs NO_x/MMBtu limit for Minntac is reflective of natural gas emission data, EPA evaluated all available CEMS data for 2012-2017. These data are reflective of scenarios where lines were burning exclusively natural gas and scenarios when lines were co-firing with solid fuels.

We are under no obligation to set fuel-specific limits and are not doing so here. EPA has determined that 1.6 lbs NO_x/MMBtu is the most stringent limit the facility can consistently meet while providing for operational flexibility with regard to fuel choice, including burning exclusively natural gas. As discussed previously in response to Comment 1, in response to comments received, EPA calculated 720-hour rolling averages for each line over the entire period without separating fuel types (the "All

Fuels" scenario). The data demonstrate that the cross-line averages at the highest 720-hour average across all data and also at the 99th percentile is 1.6 lbs NO_x/MMBtu, and at the 95th percentile is 1.5 lbs NO_x /MMBtu. However, as previously explained, to allow for fuel choice and a scenario in which the facility burns only natural gas, 1.6 lbs NO_x/MMBtu is the appropriate limit for the facility.

Comment 3: The agency suggests using the new data to revise the five BART determinations in its 2013 FIP. EPA fails to provide a reasoned analysis for using the new data to revise its prior determination. EPA's prior determination found that once low NO_x burners were installed and burned natural gas, NO_x emissions were lower than when co-firing coal and natural gas, and therefore, based the 2013 FIP BART emission limits on its record and findings. EPA's 2020 proposal flips its prior determination, contending that NO_x emissions are higher when burning only natural gas, as compared to co-firing coal and natural gas.

Response: EPA's August 15, 2012 proposed FIP approval includes an analysis and proposed determination that BART for Minntac is based upon the use of low NO_x burners. In the 2013 FIP final rule, EPA finalized this determination. EPA's analysis concerning low NO_x burners as representing BART for Minntac continues to remain valid and it is appropriate for EPA to rely on it in this action. As discussed above, at the time EPA established limits in the 2013 FIP, low NO_x burners had only

been in operation on Lines 6 and 7 since April 2011 and May 2010, respectively, and there were limited emission data available upon which to base a limit. However, since that time, U.S. Steel has continued to operate low NO_x burners on Lines 6 and 7 and has installed low NO_x burners on Lines 4 and 5. Therefore, as discussed in the response to Comment 1, there are significantly more data available from which to determine whether the BART FIP emission limits are actually achievable through the utilization of low NO_x burners at Minntac.

Comment 4: EPA's approach is not permissible under the Act. Instead of proposing BART emission limits based on maximum controls, EPA's proposal uses the new data from the operating scenario that is the least effective at controlling NO_x emissions to derive a BART emission limit, and then suggests applying the least effective control at all five BART units, regardless of what the unit burns.

Response: The control technology used as the basis for establishing BART limits in the 2013 FIP has not changed. Since promulgation of the 2013 FIP, however, our understanding of the emissions levels achievable through the use of this technology has changed. The emission limits initially promulgated under the 2013 FIP were based on the installation and optimization of a low NO_x burner on Lines 6 and 7, and the limited CEMS data available at that time. Since promulgation of the 2013 FIP, U.S. Steel has continued to collect CEMS data from Lines 6 and 7. U.S. Steel has also installed low NO_x burners on Lines 4 and

5, has adjusted and optimized each of those burners to reduce NO_x, and has collected CEMS data for each of the lines. EPA based the 1.6 lbs NO_x/MMBtu limit on the emission rates demonstrated by the CEMS data to be achievable by low NO_x burners, which is the technology determined to be the basis for BART. The 1.6 lbs NO_x/MMBtu limit is the most stringent limit the facility can consistently meet while providing for operational flexibility with regard to fuel choice. Contrary to commenter's assertion, EPA did not base the 1.6 lbs NO_x/MMBtu limit on the projected emission rates achievable by the least effective control technology.

Comment 5: There is nothing in the record to suggest all lines will be capable of and restricted to burning natural gas nor that the company plans to burn natural gas exclusively.

Response: The CEMS data clearly demonstrate that all lines are capable of burning natural gas. EPA is not restricting U.S. Steel to only burning natural gas at Minntac. Should U.S. Steel choose to periodically co-fire with coal or biomass on one or more of its lines, the facility will remain subject to the 1.6 lbs NO_x/MMBtu limit regardless of fuel type.

Comment 6: EPA fails to provide a basis for the cherry-picked and incomplete data. EPA's NPRM notes it evaluated six years of CEMS data, not specifying which years were evaluated. EPA provides neither an analysis of nor a justification for using such disparate data. While EPA explains the data represent operations at the taconite furnaces under various

production scenarios, it fails to explain what these scenarios are and whether they represent the full range of future scenarios. EPA provides no explanation to justify its use of this limited data set.

Response: As described previously, EPA used the full suite of CEMS data available for each line after the installation of low NO_x burners. The document entitled "Minntac CEMS Data and Analysis," included in the docket, identifies the date and hour of each emission data point used in the calculations. The earliest data available that provided hourly NO_x emission data in lbs NO_x/MMBtu along with the corresponding fuel type began in 2012 and was provided through 2017. From this data set, EPA then compiled the emission data available for each line after the installation of low NO_x burners. For Line 4, this included data from December 15, 2016 through November 19, 2017. For Line 5, this included data from December 12, 2015 through November 11, 2017. For Lines 6 and 7, emission data were available from May 8, 2012 and April 27, 2012, respectively, through November 11, 2017. There are necessarily differing amounts of data for each line since the low NO_x burners were installed at different times. To establish a limit based on emissions reflective of normal operating conditions, EPA excluded hours when the process was idle, when a measurement error was recorded, or when process or CEMS codes indicated anything other than normal operation.

With respect to operating scenarios, EPA does not claim that the data evaluated represent the full range of possible

future operating scenarios. Rather, the initial emission limits in the 2013 FIP were based upon very limited CEMS data from Lines 6 and 7. Operations at Lines 6 and 7 over the 2012-2017 time period showed varying production levels, fuels, pellet types and different ore mixes. In addition, we now have CEMS data for Lines 4 and 5 reflecting the installation of low NO_x burners. The available CEMS data provide information on NO_x emissions over time which encompass more operating scenarios than were represented by the limited data available at the time EPA promulgated the 2013 FIP. As the CEMS data⁸ available in the docket show, the 1.2 lbs NO_x/MMBtu limit promulgated under the 2013 FIP and intended to apply when burning only natural gas cannot be consistently achieved at Minntac during normal operations with low NO_x burners.

Comment 7: Although EPA's NPRM explains that U.S. Steel also provided hourly NO_x emissions data in lbs/MMBtu for Line 3, which has not yet installed low NO_x burner technology, the NPRM provides no information on where this information is available.

Response: This information was erroneously omitted from the docket. The docket has been updated to include this information.⁹

Comment 8: For the past ten years, 2009 through 2018, the NO_x emissions reported by U.S. Steel have been relatively constant. EPA fails to explain why emissions remain constant

⁸ See "Minntac CEMS Data and Analysis," included in the docket.

⁹See "Lines 3, 4, and 5 Data-L4_7 NOx CEMS Data files combined."

even though U.S. Steel reports it installed low NO_x burners on four of the five lines subject to BART. EPA also fails to provide an explanation for why there has been an increase in NO_x emissions in the years following installation of the low NO_x burner. This suggests that U.S. Steel did not optimize the low NO_x burners from 2014 through 2017.¹⁰

Response: Commenter references a figure provided by commenter that: (1) Shows the 2002 baseline annual emissions for Minntac included in Minnesota's December 30, 2014 Five-Year Regional Haze Progress Report SIP submittal,¹¹ and (2) plots annual production and annual NO_x emissions at Minntac. The figure does not accurately reflect U.S. Steel's implementation and optimization of low NO_x burners at Minntac. First, the annual NO_x emissions included in the commenter's figure do not represent annual emissions from only the indurating furnaces, but rather represent facility-wide NO_x emissions. Second, by definition, BART is "based on the degree of reduction achievable through the application of the best system of continuous emission reduction."¹² EPA is setting a cross-line average for Minntac Lines 3 through 7 of 1.6 lbs NO_x/MMBtu, averaged over 30

¹⁰ Commenter refers to a figure provided by commenter that purports to show 2002 baseline emissions from Minnesota's state implementation plan (SIP) submittal along with plots of facility-wide NO_x emissions in tons per year (tpy) and facility-wide production for the period 2007 through 2018. See *NPCA and MCEA Comments on the Proposed Revision to Minnesota Taconite Federal Implementation Plan for U.S. Steel Minntac*, at p. 11, Figure 2.

¹¹ Note commenter used incorrect numbers 14,294 vs 14,924.

¹² See 40 CFR 51.301.

days, which is a rate-based limit based on the degree of reduction achievable through the use of low NO_x burners. Commenter conflates the rate-based emission limit with total annual NO_x emissions from the facility. Since we are setting a rate-based emission limit, which does not constrain production levels, total annual NO_x emissions may fluctuate in a given year even while the source is in compliance with its BART emission rate. For example, if production increases, total NO_x emissions in tons per year would be expected to increase as well. If production decreases, total NO_x emissions in tons per year (tpy) would be expected to decrease. Under all production scenarios, the lbs of NO_x/MMBtu rate-based emission limit remains applicable. Finally, the production levels shown in the figure represent facility-wide production. The figure provided by the commenter does not differentiate production contributions by line, i.e., what percentage of total production comes from individual lines which had low NO_x burners installed at the time vs. lines which did not have low NO_x burners installed at the time.

Notwithstanding the above-noted limitations regarding the figure provided by the commenter, nonetheless, some information can be gained by looking at the difference between production and emissions over time, as represented by the distance between the NO_x line and production line in the figure. From 2007 through 2009, before the installation of low NO_x burners, these lines are relatively close together. In 2010, the year when the

low NO_x burner was installed on Line 7, production rose dramatically while annual NO_x emissions did not. Visually, there is a significant divergence between the NO_x and production lines in the figure, indicating an increase in production without a commensurate increase in emissions. Correspondingly, after the low NO_x burner was installed on Line 6 in 2011, the figure shows production increased between 2010 and 2011 while emissions decreased. Low NO_x burners were installed on Lines 5 and 4 in December 2015 and December 2016, respectively. Similarly, the figure shows NO_x emissions between 2015 and 2017 did not increase at the same rate as production.

Using the available CEMS data for the 2012-2017 time period, EPA further evaluated the differences between various NO_x emission values pre and post-installation of low NO_x burners on Lines 4 and 5.¹³ Data for both lines showed a decrease in the average lbs NO_x/MMBtu, high 720-hour average lbs NO_x/MMBtu, and 99th percentile lbs NO_x/MMBtu. Even the average lbs NO_x/hour, which does not account for variations in production levels, decreased. U.S. Steel did not provide CEMS data for Lines 6 and 7 for the period prior to the installation of low NO_x burners, so a similar comparison cannot be made for these lines.

Finally, the commenter asserts that the data suggest that U. S. Steel failed to optimize operation of the low NO_x burners from 2014 through 2017. As discussed in detail in responses to

¹³ See "Emission reduction estimates" and "Lines 3, 4, and 5 Data-L4_7 NO_x CEMS Data files combined for docket," included in the docket.

comments 9 and 14 in this document, after installation of the low NO_x burner on each line, U.S. Steel optimized burner operation for NO_x reduction while maintaining pellet quality. In addition, Minntac has remained subject to the limits in the 2013 FIP.

Comment 9: EPA did not explain how U.S. Steel arrived at its conclusion that the low NO_x burners at each of the lines were optimized and functioning at their best. In prior regional haze actions, when the level of control has been uncertain at the time of EPA's final action, EPA requires a control technology demonstration, with explicit requirements for optimization of the control technology system. EPA's 2014 final FIP requirements for Arizona plants included a control technology demonstration project for the emission control system at each plant, which entailed the collection of data and preparation of an optimization protocol that would be used to determine if a higher control efficiency would be achievable. There is no evidence that EPA required and oversaw implementation of a control technology project. Moreover, the BART Guidelines require the consideration of improvements to the low NO_x burner controls (40 CFR part 51, appendix Y, at IV. D. Step 1¶9).

Response: U.S. Steel has documented optimization studies at Lines 4, 5, 6, and 7 in final testing reports for each line. Final testing reports for Lines 6 and 7 and preliminary data for Lines 4 and 5 are included in the docket. In addition, U.S. Steel submitted final testing reports for Lines 4 and 5, titled

"Final Report Line 4 Burner 092917." This document has also been added to the docket. In each report, U.S. Steel describes challenges encountered over the course of installing, operating, and testing each low NO_x burner, and discusses how certain design and operational changes were found to optimize operation of each line's low NO_x burners. As explained in the reports, U.S. Steel evaluated operation of each low NO_x burner to ensure each burner can operate in a manner that reduces NO_x emissions while making pellets that meet quality specifications. Each burner was evaluated according to hourly CEMS data and during expected operating scenarios, including while burning natural gas, solid fuels, and a combination of natural gas and solid fuels. Over the course of the testing, U.S. Steel identified several problems occurring at various stages of low NO_x burner operation and prescribed specific design and operational changes to improve operation in each scenario. U.S. Steel states that each of the proposed solutions and design changes - including adding blowers, increasing combustion air fan speed and capacity, adding rings to combustion air annuli, and adjusting and monitoring atomizing air and gas splits - were implemented in consultation with the burner manufacturer to optimize low NO_x burner operation and NO_x reduction. In each case, U.S. Steel determined optimization of the low NO_x burners involves achieving stoichiometric ratios of air to fuel at levels that create a tight flame shape in order to minimize NO_x while ensuring proper process operation. U.S. Steel continues to monitor CEMS data

and burner parameters to ensure the burners are operating effectively.

As explained in response to Comments 1 and 3, at the time EPA established limits in the 2013 FIP, low NO_x burners had only been in operation on Lines 6 and 7 since April 2011 and May 2010, respectively, and there were limited CEMS data available upon which to base a limit. However, since EPA promulgated the initial BART limits for Minntac in the 2013 FIP, U.S. Steel has continued to operate low NO_x burners on Lines 6 and 7 and has installed low NO_x burners on Lines 4 and 5.¹⁴ There are significantly more data available from which to determine whether the 2013 FIP emission limits are actually achievable through the utilization of low NO_x burners at Minntac. In addition, and as noted above, U.S. Steel has submitted final testing reports for Lines 4 through 7 that detail U.S. Steel's optimization efforts for each of these low NO_x burners. In contrast to the scenario cited by commenter where the control technology had not yet been installed and only minimal data were available regarding performance of the control technology at issue, EPA is basing the revised limit for Minntac on actual CEMS data. U.S. Steel has also provided information concerning its low NO_x burner optimization efforts for Minntac Lines 4 through 7 and has provided post-optimization emissions data for Lines 4 through 7.

¹⁴ U.S. Steel installed low NO_x burners on Lines 4 and 5 on December 15, 2016, and December 20, 2015, respectively.

In the Arizona 2014 Regional Haze FIP (79 FR 52420) cited by the commenter, EPA stated the following with regard to Selective Non-Catalytic Reduction (SNCR) at lime kilns: "While this type of control technology demonstration is not typically required as part of a regional haze plan, we consider it to be appropriate here, given the minimal data available about the performance of SNCR at lime kilns." (79 FR 52440). With regard to SNCR at cement kilns, we explained, "While this type of control technology demonstration is not typically required as part of a regional haze plan, we consider it to be appropriate here, given the significant variability in control efficiencies achievable with SNCR at cement kilns." (79 FR 52456; 79 FR 52462). The control technologies required for lime kilns and cement kilns in the 2014 Arizona FIP had not yet been installed at the time the Arizona FIP was promulgated. This is a different scenario than the situation we are addressing with regard to Minntac.

Commenter cites to the BART Guidelines at 40 CFR part 51, appendix Y, at IV. D. Step 1~~9~~. However, section IV.D. addresses the five steps of a case-by-case BART analysis, with Step 1 being the identification of all available retrofit control technologies. As discussed in response to Comment 1, the August 15, 2012 Proposed FIP (77 FR 49312-49313) included a five-step BART analysis for Minntac's five lines (Lines 3-7). The five-step analysis was conducted in accordance with the BART Guidelines. EPA's analysis and proposed determination that BART

is based upon the use of low NO_x burners remains valid and EPA continues to rely upon that analysis. We are not conducting a new five-step BART analysis. In this action, we are only revising the NO_x emission limits for Minntac to reflect the level of emission reductions consistently achievable by low NO_x burners, which is the control technology determined to represent BART for Minntac in the 2013 FIP.

Comment 10: 42 U.S.C. 7607(d)(2) requires that EPA's proposed action include "the methodology used in obtaining the data." While the docket includes an Excel spreadsheet of CEMS data, there is no explanation provided regarding the methodology and test methods used to obtain the data. Furthermore, there is nothing in the record to indicate U.S. Steel's recent data was accompanied by a certification statement. Therefore, EPA's proposal fails to comply with the Act's methodology disclosure requirements and the public is unable to confirm accuracy and completeness of the data.

Response: 42 U.S.C. 7607(d)(2) includes requirements pertaining to the establishment of a rulemaking docket. 42 U.S.C. 7607(d)(3), however, does require EPA to include a summary of "the methodology used in obtaining the data and in analyzing the data." At proposal, we explained how EPA obtained the CEMS data. Specifically, we stated, "[t]o justify this limit, U.S. Steel provided EPA with hourly NO_x emissions data in lbs/MMBTU documenting actual emissions levels after installation of [low NO_x burner] technology on Minntac Lines 4-7. U.S. Steel

also provided hourly NO_x emissions data in lbs/MMBTU for Line 3, which has not yet installed [low NO_x burner] technology." (85 FR 6126).

In response to EPA's CAA section 114 request for information regarding Minntac, U.S. Steel provided CEMS data for Lines 3, 4 and 5 covering the time period from January 1, 2012 through August 9, 2016 as well as CEMS data for Lines 6 and 7 covering the time period from July 24, 2015 through August 9, 2016. The response included a certification of the accuracy and completeness of the information provided. U.S. Steel's letter responding to the CAA section 114 information request, as well as the certification, has been added to the docket.

In response to additional requests from EPA that were not made under CAA section 114, U.S. Steel provided CEMS data for Lines 6 and 7 for the period of April 27, 2012 through July 24, 2015 and for Lines 4 through 7 for the period of August 2016 to November 2017. However, Minntac's CEMS were certified on Agglomerator Waste Gas Lines 6 & 7 on June 2-3, 2005. The CEMS were certified on Waste Gas Lines 3, 4 & 5 on January 24, 2007, January 31, 2007 and February 1, 2007, respectively. Further, Minntac is subject to the CEMS requirements of the 2013 FIP, which may be found at 40 CFR 52.1235(c) and include the requirement that CEMS "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." Minntac's title V permit also specifies that the

CEMS meet the requirements of 40 CFR part 60 appendix B and F and Minnesota rule 7017 for monitoring and testing requirements. Pursuant to their title V permit, U.S. Steel must annually certify its compliance with title V. EPA has no reason to question the accuracy and completeness of the CEMS data supplied.

In addition, the document, *Minntac CEMS Data and Analysis*, is included in the docket and contains EPA's analysis of the data provided by U.S. Steel.¹⁵

Comment 11: While U.S. Steel expressed apprehensions about fluctuating emissions due to "concerns regarding ore blend," and EPA appears to rely on this in proposing to revise the FIP, there is no information in the record to substantiate ore blend variability. Nor is there any information in the record that explains how fluctuations in ore blend impact the ability of low NO_x burners to control NO_x emissions. EPA's assertions appear to

¹⁵ See "Minntac CEMS Data and Analysis," Docket ID # EPA-R05-OAR-2010-0037-0110, available at <https://www.regulations.gov/document?D=EPA-R05-OAR-2010-0037-0110>. We note that the document, *Redacted US Steel Proposal to EPA Minntac 5-1-2018*, was erroneously listed on regulations.gov as an attachment to *Minntac CEMS Data and Analysis* under Docket ID # EPA-R05-OAR-2010-0037-0110. *Minntac CEMS Data and Analysis* and *Redacted US Steel Proposal to EPA Minntac 5-1-2018* are two distinct documents. *Minntac CEMS Data and Analysis* is an Excel file containing EPA's analysis of CEMS data for Minntac. *Redacted US Steel Proposal to EPA Minntac 5-1-2018* is a redacted version of a settlement communication provided by U.S. Steel to EPA. While *Redacted US Steel Proposal to EPA Minntac 5-1-2018* remains available under Docket ID # EPA-R05-OAR-2010-0037-0110, it may also be found under its own Docket ID # EPA-R05-OAR-2010-0037-0109, available at <https://www.regulations.gov/document?D=EPA-R05-OAR-2010-0037-0109>.

suggest that it assumes the fluctuations go in one direction, adding a "safety margin" to the facility-wide limit, without providing a reasoned basis.

Response: EPA did not consider ore blends in proposing to revise the FIP. EPA did provide a reasoned basis for the 1.6 lbs NO_x/MMBtu emission limit. This is the limit demonstrated by the CEMS data to be achievable by low NO_x burners, which is the technology determined to be the basis for BART. The 1.6 lbs NO_x/MMBtu limit is the most stringent limit the facility can consistently meet while providing for operational flexibility with regard to fuel choice. EPA did not add a safety margin to the limit as commenter suggests.

Comment 12: EPA's proposal suggests that given the trajectory of fuel markets, EPA has no reason to believe that U.S. Steel will not continue to use natural gas at Minntac. EPA provides neither information about fuel markets nor a trajectory. Even if such information were provided, reliance on market projections is not an acceptable justification. Projections are just that, merely projections, and EPA lacks authority to rely on them. Moreover, in responding to the Petitions for Reconsideration on its 2013 FIP, EPA explained that "the taconite industry has demonstrated that it can re-engineer furnaces to adapt to market changes (such as fuel prices)" and EPA found that "at U.S. Steel's Minntac facility, where low NO_x burners have been installed and are in operation, there has been no fuel penalty."

Response: The 1.6 lbs NO_x/MMBtu limit for Minntac represents the most stringent limit the facility can consistently meet while providing for operational flexibility to burn exclusively natural gas. As discussed previously in response to Comments 2 and 4, U.S. Steel's production and fuel use data show that U.S. Steel has been moving toward using natural gas rather than co-firing with coal. Minntac Lines 6 and 7 (the only lines that capable of burning coal) have shifted fuel use dramatically over the six years evaluated, from 15% natural gas in 2012 to 97% natural gas in 2017. The 1.6 lbs NO_x/MMBtu limit represents the most stringent limit the facility can consistently meet while providing operational flexibility with regard to fuel choice—including, for example, in response to market changes, the option to burn exclusively natural gas. Should U.S. Steel choose to co-fire with coal or biomass on one or more of its lines, the facility will remain subject to the 1.6 lbs NO_x/MMBtu limit regardless of fuel type.

Comment 13: Information in the docket indicates U.S. Steel suggested the facility-wide emission limit needs to be set at a level that includes approximately two months of historical emission data that were above the 1.5 lbs NO_x/MMBtu limit EPA offered during the negotiations. EPA provides no explanation for what caused the elevated levels. In fact, it's unclear whether EPA attempted to ascertain the answer to that question. These elevated levels were not seen at the other BART units. Without an explanation for this limited data, and whether such

instances will occur during normal operations, it is unreasonable, arbitrary and capricious for EPA to set a limit that includes these operations, which has the effect of providing a "safety margin."

Response: It is unclear what information commenter is referencing. However, as discussed in greater detail in response to Comment 1, EPA evaluated and analyzed available hourly CEMS data showing emissions in lbs NO_x/MMBtu and fuel type. These data were available for the 2012-2017 time period. From this data set, EPA compiled the emission data available for each line after the installation of low NO_x burners. EPA then evaluated CEMS codes and process codes for each line to ensure that the limit would be based upon emission reduction capabilities during normal operations. EPA excluded hours when the process was idle, when a measurement error was recorded, or when process or CEMS codes indicated anything other than normal operation. Based upon that data, EPA proceeded to calculate achievable limits for the individual lines to use as a basis for the 1.6 lbs NO_x/MMBtu cross-line average limit proposed.

Comment 14: Based on its experience with the low NO_x burner at Minntac Line 6, EPA denied U.S. Steel's Petition for Reconsideration (at another facility), explaining that after installing Line 6, U.S. Steel was able to make significant design changes before installation at the next line planned for

BART installation, Minntac Line 7.¹⁶ EPA explained that the company identified the need for increased air flow and the need to modify the burner size or physical space to best accommodate the installation, and in doing so achieved the NO_x reductions at Line 7. EPA's current proposal fails to explain why U.S. Steel cannot make design changes to all the lines that will be capable of burning natural gas to achieve the NO_x emission limit when burning gas, when earlier it demonstrated it was able to do so at Lines 6 and 7.

Response: U.S. Steel's final burner reports for Lines 4 and 5, 6, and 7 provide detailed explanations of its efforts to optimize NO_x reduction at each line. As discussed in the reports, U.S. Steel has made physical and operational changes and tuned each low NO_x burner to ensure each can operate in a manner that reduces NO_x emissions while making pellets that meet quality specifications. Specifically, the September 2017 Line 4 final burner report highlights how U.S. Steel installed a blower to add additional combustion air to optimize stoichiometric ratios at Lines 4 and 5. Subsequent information provided by U.S. Steel discusses how U.S. Steel implemented a CEMS-based monitoring and process control program to monitor NO_x emissions at each line and allow for automated process control system adjustments to ensure the low NO_x burners at each line are operating efficiently.

¹⁶ Commenter seems to be confusing the order of low-NO_x burner installation on Lines 6 and 7. Low NO_x burners were installed on Lines 6 and 7 in April 2011 and May 2010, respectively.

Comment 15: One of EPA's purported reasons for providing U.S. Steel with the higher limit is to provide the company with "additional flexibility." This rationale finds no basis in the CAA and is therefore not a permissible reason for revising the 2013 FIP determinations. Moreover, while EPA suggests that this flexibility is appropriate because of "unique issues U.S. Steel faced in trying to comply with the individual limits in the 2013 FIP," EPA provides no explanation of what those issues are, and what options were explored, if any, to resolve those issues. EPA fails to provide an explanation for its reversal of opinion and fails to explain the basis for its decision.

Response: As explained in the proposal, U.S. Steel faced issues trying to comply with the limits in the 2013 FIP. As discussed in response to Comment 1, the emission limits initially promulgated under the 2013 FIP were based on the installation and optimization of low NO_x burners on Lines 6 and 7, and the limited CEMS data available at that time. Since promulgation of the 2013 FIP, our understanding of the emissions levels achievable through the use of low NO_x burner has changed. U.S. Steel has continued to collect CEMS data from Lines 6 and 7. U.S. Steel has also installed low NO_x burners on Lines 4 and 5, adjusted and optimized each of those burners to reduce NO_x, and collected CEMS data for each of the lines.

EPA's proposal to set an aggregate emission limit averaged across Minntac's five lines is permissible under the BART Guidelines. As discussed in the proposal and in response to

Comments 1 and 18, the BART Guidelines provide that a source may be permitted to "average" emissions across a set of BART-eligible emission units within a fenceline, so long as the emission reductions from each pollutant controlled for BART would be equal to those reductions that would be obtained by simply controlling each of the BART-eligible units that constitute BART-eligible sources. See 40 CFR part 51, appendix Y, at V.

EPA based the 1.6 lbs NO_x/MMBtu cross-line average on the emission rates demonstrated by the CEMS data to be achievable through the use of low NO_x burners. The 1.6 lbs NO_x/MMBtu limit is the most stringent limit the facility can consistently meet while providing for operational flexibility with regard to fuel choice. As stated in the proposal, EPA is confident that allowing U.S. Steel to average NO_x emissions levels across Minntac Lines 3 through 7 will achieve NO_x emission reductions equal to the reductions that would have been obtained had EPA revised the individual limits for Minntac Lines 3 through 7 separately. The "additional flexibility" provided by this cross-line average is consistent with the BART Guidelines.

Comment 16: EPA does not disclose that the proposal is apparently the result of confidential settlement discussions. EPA's apparent reliance on confidential information not disclosed as a part of this proposal, contravenes the Act's requirements and does not allow the public to review and consider the changes proposed, and is particularly problematic

in light of the history and level of pollution from these sources. EPA has not provided documentation of the reasons for the revisions in the form of publicly available information. Without the opportunity to review the information EPA relies on, the public is prohibited from critiquing the basis for EPA's action and cannot meaningfully participate in the comment process. EPA is suppressing "meaningful comment by failure to disclose the basic data relied upon is akin to rejecting comment altogether."

In sum, EPA's emission limitation proposal appears to be based on negotiations, rather than a technical analysis, since EPA did not consider the relevant statutory and regulatory factors in proposing the revisions and fails to provide a basis for most of its assertions. It is unlawful, arbitrary and capricious for EPA to assert it has authority to revise BART emission limitations without the factual and analytical support substantiating its decision.

Response: The revised emission limit is the result of a settlement agreement between EPA and U.S. Steel. On September 11, 2019, EPA published a notice of proposed settlement agreement in the **Federal Register** and provided the public an opportunity to comment on the proposed settlement agreement, in accordance with CAA section 113(g), 42 U.S.C. 7413(g). (84 FR 47945). EPA did not receive any adverse comments relating to the proposed settlement agreement. Contrary to the commenter's assertion, EPA did not rely on confidential information in

determining the appropriate NO_x BART emission limits for Minntac. Rather, EPA relied upon CEMS data available in the docket.

As discussed in the response to Comment 1, the five-step BART analysis for Minntac in the August 15, 2012 proposed FIP (77 FR 49312-49313), established low NO_x burners as the basis for BART emission limits. That analysis and EPA's determination that BART is based upon the use of low NO_x main burners remains valid and EPA continues to rely on the BART analysis set forth in the August 15, 2012 proposal concerning the selection of low NO_x burners as the appropriate BART technology. However, since EPA promulgated the FIP limits, U.S. Steel has continued to operate low NO_x burners and to collect CEMS data on Lines 6 and 7. Since promulgation of the FIP, U.S. Steel has also installed low NO_x burners and collected CEMS data on Lines 4 and 5. Therefore, there are significantly more data available now from which to evaluate the emissions limits actually achievable through the use of low NO_x burners at Minntac than there were at the time the FIP was promulgated. As discussed in greater detail in response to Comments 1 and 6, it is this combined data set, which has been included in the docket, that provides the basis for the revision to the NO_x BART emission limit for Minntac.

Comment 17: The proposal lacks clear, well-documented comparisons between baseline emissions, the emission limitations from the 2013 final Taconite FIPs, and the new proposal. In particular, changes in annual emissions are not provided, and

thus not easily compared by the public.

Response: Upon implementation of limits of 1.5 lbs NO_x/MMBtu and 1.2 lbs NO_x/MMBtu, the reductions estimated under the 2013 FIP for Minntac range from 5,426 tpy to 6,077 tpy. The estimated reductions under a revised Minntac limit of 1.6 lbs NO_x/MMBtu are 5,209 tpy. These data are included in the docket as "Emission reduction estimates."

Comment 18: EPA fails to explain why it now thinks it is reasonable to use U.S. Steel's averaging approach, which it earlier found was not defensible because it relies on the assumption that all furnaces will emit at their highest values. Relying on the assumption that all furnaces will emit at their highest values (and be burning natural gas 100 percent of the time) is yet another assumption that provides an additional unjustified "safety margin."

Response: Under the BART Guidelines, a source may be permitted to "average" emissions across a set of BART-eligible emission units within a fenceline, so long as the emission reductions from each pollutant controlled for BART would be equal to those reductions that would be obtained by simply controlling each of the BART-eligible units that constitute BART-eligible sources. See 40 CFR part 51, appendix Y, at V. As shown in Table 1 in response to Comment 1, averaging the individual limits across Lines 4 through 7 results in a combined emissions limit of 1.6 lbs NO_x/MMBtu averaged over 720 hours (30 days).

In determining the appropriate NO_x emission limit for Minntac, EPA analyzed CEMS data reflecting 720-hour rolling averages at the 95th and 99th percentiles as well as the highest 720-hour rolling average at each line. As noted in responses to Comments 1 and 2, while the 1.6 lbs NO_x/MMBtu limit for Minntac is reflective of natural gas emission data, EPA evaluated all available CEMS data for 2012-2017. Based on this CEMS data, the resulting cross-line average is 1.6 lbs NO_x/MMBtu averaged over 720 hours when the facility is burning natural gas, regardless of selection of statistical analyses at the 99th or 95th percentiles, or highest 720-hour average. As discussed in response to Comments 1 and 13, 1.6 lbs NO_x/MMBtu limit is the most stringent limit the facility can consistently meet while providing operational flexibility with regard to fuel choice, including the facility's ability to burn natural gas as opposed to co-firing. EPA did not add a safety margin to the limit as commenter suggests.

Comment 19: If EPA is already setting a 30-day rolling average limit, it is inappropriate to further use the 720-hour values. Introducing the hourly values provides additional variability in the limit. EPA provides no authority to justify this approach, which appears to have increased the BART limit.

Response: Operations at Minntac in a given 30-day period, or even a single day, may in some cases involve both operation with only natural gas and operation with at least some firing of solid fuels. To be able to evaluate emissions from all hours

when different fuels were used within a 30-day period, rather than only the times when a line used solely natural gas or solely co-fired for 30 consecutive days, EPA evaluated emissions based on 720-hour averages. Note that operations are typically 24 hours per day and 720 is the number of hours in a 30-day period.

Comment 20: 42 U.S.C. 7410(1) prohibits the Administrator from approving a SIP/FIP revision if the revisions would interfere with the attainment and reasonable further progress requirements of the CAA, and "any other applicable requirement." In addition to requiring BART, each state's regional haze SIP must also set goals, expressed in deciviews for each Class I area located within the state that will assure reasonable progress toward achieving natural visibility. Moreover, the state's haze SIP must establish reasonable progress goals that ensure visibility conditions steadily progress, providing for improvement in visibility on the most impaired days and ensure no degradation in visibility on the least impaired days over the period of the implementation plan. 40 CFR 51.308(d)(1). These goals are set after considering the anticipated reductions in visibility impairing pollution over the planning period of the SIP from anticipated BART controls and other Federal or state programs, as well as controls imposed on non-BART sources under the regional haze SIP to help achieve reasonable progress. EPA's proposal did not consider how relaxing the BART emission limits will impact the reasonable progress goals.

Response: Under section 110(1) of the Act, 42 U.S.C. 7410(1), the EPA Administrator may not approve a SIP or FIP revision "if the revision would interfere with any applicable requirements concerning attainment and reasonable further progress, or any other applicable requirements of [the Act]." In the proposed action, EPA proposed to find that the revisions to the FIP will comply with applicable regional haze program requirements and general implementation plan requirements such as enforceability.

On June 12, 2012 (77 FR 34801), EPA approved Minnesota's regional haze plan as satisfying the applicable requirements in 40 CFR 51.308, except for BART emission limits for the taconite facilities. Among the regional haze plan elements approved was Minnesota's long-term strategy for making reasonable progress toward visibility goals. Minnesota's long-term strategy did not rely on the achievement of any particular degree of emission control from the taconite plants to achieve reasonable progress goals. Therefore, the revised NO_x limits for Minntac represent greater control than was assumed in Minnesota's approved long-term strategy SIP and does not interfere with the reasonable progress goals required by 40 CFR 51.308(d)(1). Thus, the proposed FIP revision would not interfere with any regional haze program requirements.

Comment 21: The CAA requires that EPA provide a public hearing when proposing a FIP. [42 U.S.C. 7607(d)(5)] EPA failed to comply with this legislative mandate, since its proposal

neither provided information regarding a public hearing, nor asked the public if they were interested in a hearing.

Response: In response to this comment, EPA held a virtual public hearing on the proposed rule to provide interested persons an opportunity for the oral presentation of data, views, or arguments concerning the proposed rule. EPA also reopened the comment period on the proposed rule. Specifically, on September 29, 2020, EPA published a NPRM in the **Federal Register** announcing the virtual public hearing on the proposed rule to be held on October 14, 2020 and reopening the public comment period on the proposed rule. (85 FR 60942). EPA held the virtual public hearing on October 14, 2020. EPA accepted public comments on the proposed rule for 30 days following the virtual public hearing, and the public comment period closed on November 13, 2020. No individuals presented at the virtual public hearing and EPA did not receive any comments during the reopened comment period. The docket has been updated with a transcript of the virtual public hearing.¹⁷

Comment 22: The CAA and Regional Haze Rule grant the FLMs, regardless of whether a FLM manages a Class I area within or beyond the state, a special role in the review of regional haze implementation plans. There are obligations to consult on plan revisions under 40 CFR 51.308(i)(3) and EPA has not demonstrated

¹⁷ Minnesota; Revision to Taconite Federal Implementation Plan; October 14, 2020 Public Hearing Transcript, Docket ID # EPA-R05-OAR-2010-0037-0117, available at <https://www.regulations.gov/document?D=EPA-R05-OAR-2010-0037-0117>.

it consulted with the Forest Service, the Fish and Wildlife Service and the National Park Service on the proposed FIP revision. Therefore, EPA has not met its obligations under the Act.

Response: In response to this comment, EPA contacted the FLMs to provide the FLMs an opportunity to consult on the proposed action. EPA reached out to representatives from the National Park Service, U.S. Forest Service, and U.S. Fish and Wildlife Service. Each representative indicated that they did not have any comments on the proposed rule. EPA has updated the docket to include the relevant communications with the FLMs.¹⁸

Comment 23: Should EPA wish to pursue this FIP revision, the agency must prepare the required information and analyses, including a comprehensive optimization study at Minntac, and then repropose its action.

Response: As noted in responses to Comments 1, 9 and 16, the five-step BART analysis for Minntac in the August 15, 2012 proposed FIP (77 FR 49312-49313), established low NO_x burners as the basis for BART emission limits. That analysis and EPA's determination that BART is based upon the use of low NO_x main burners remains valid and EPA continues to rely on the BART analysis set forth in the August 15, 2012 proposal concerning the selection of low NO_x burners as the appropriate BART technology. However, since EPA promulgated the FIP limits, U.S.

¹⁸ See emails from March 23, 2020 to June 30, 2020 included in the docket as "3-23-2020 email from K. D'Agostino to D. Shepherd, T. Wickman, T. Allen," etc.

Steel has continued to operate low NO_x burners and to collect CEMS data on Lines 6 and 7. Since promulgation of the FIP, U.S. Steel has also installed low NO_x burners and collected CEMS data on Lines 4 and 5. Therefore, there are significantly more data available now from which to evaluate the emissions limits actually achievable through the use of low NO_x burners at Minntac than there were at the time the FIP was promulgated. As discussed in greater detail in response to Comments 1 and 6, it is this combined data set, which has been included in the docket, that provides the basis for the revision to the NO_x BART emission limit for Minntac.

In addition, as described in greater detail in responses to Comments 9 and 14, U.S. Steel's final burner reports for Lines 4 and 5, 6, and 7 provide detailed explanations of its efforts to optimize NO_x reduction at each line. As discussed in the reports, U.S. Steel has made physical and operational changes and tuned each low NO_x burner to ensure each can operate in a manner that reduces NO_x emissions while making pellets that meet quality specifications. In each report, U.S. Steel discusses the process of optimizing the low NO_x burners and tuning each burner and ancillary equipment to achieve optimal stoichiometric air to fuel ratios. For each line, U.S. Steel determined achieving optimal air to fuel ratios requires monitoring the atomizing air and gas split between the core and annulus gas to reduce flame turbulence in order to create a tight flame shape at each burner. In addition, in some cases, U.S. Steel modified

capacities of combustion fans and added blowers and annulus rings to improve thrust and air to fuel ratios - each of which served to minimize NO_x emissions as demonstrated by CEMS data.

This action is limited to revising the FIP emission limit for Minntac to reflect the level of NO_x control achievable for the source based on the use of low NO_x burners. Regarding commenter's assertion that EPA was required to prepare certain information and analysis and repropose this action, as noted above, at the time of our February 4, 2020 proposal, EPA already had the information and analyses necessary to determine the appropriate revised emission limit for Minntac. This information included CEMS data for Minntac Lines 4 through 7 provided by U.S. Steel and EPA's analysis of that information. In addition, U.S. Steel provided to EPA final burner reports detailing U.S. Steel's efforts to optimize the low NO_x burners on Minntac Lines 4 through 7.

As discussed in response to Comment 1, in the 2013 FIP, EPA determined that low NO_x burners reflect the appropriate level of BART control for Minntac. EPA's analysis and proposed determination that BART is based upon the use of low NO_x burners remains valid. (78 FR 8706). However, the emission limits established in the 2013 FIP were based on limited CEMS data. Since promulgation of the 2013 FIP, U.S. Steel has continued to collect CEMS data on Minntac Lines 6 and 7. U.S. Steel has also installed low NO_x burners on Lines 4 and 5 and has collected CEMS data reflecting the operation of low NO_x burners on these lines.

To determine emission rates that would be consistently achievable at each line, EPA evaluated all available CEMS data for 2012-2017, which covered a wide range of different operating scenarios.

Comment 24: How is the increase in NO_x emissions at this source not affecting nonattainment areas in downwind states such as New York or Connecticut? East coast states typically point to states like Minnesota as significantly contributing to their ozone problems under CAA 110(a)(2)(D). Is EPA at this point conclusively deciding that this increased FIP limit will not cause the state to violate CAA 110(a)(2)(D) for any of the relevant NAAQS like ozone PM or NO₂? Did EPA adjust its photochemical modeling performed for good neighbor SIPs to account for this relaxation? EPA issued several memos detailing Minnesota's contributions before this change, what is the quantitative effect of increasing these emissions on Minnesota's contribution to downwind states? EPA must figure this out before modifying this FIP otherwise EPA is predetermining Minnesota's SIP under 110(a)(2)(D) and concluding the state has met its obligations.

Response: The CAA requires states to submit, within three years after promulgation of a new or revised standard, SIPs meeting the applicable "infrastructure" elements of sections 110(a)(1) and (2). One of these applicable infrastructure elements, CAA section 110(a)(2)(D)(i), requires SIPs to contain "good neighbor" provisions to prohibit certain adverse air

quality effects on neighboring states due to interstate transport of pollution. The commenter does not specify which element of CAA section 110(a)(2)(D) it believes is implicated by this action. Though, in questioning the effect of the FIP revision on downwind nonattainment areas, the commenter may be referring to the first two sub-elements of the good neighbor provisions, at CAA section 110(a)(2)(D)(i)(I). These sub-elements require that each SIP for a new or revised standard contain adequate provisions to prohibit any source or other type of emissions activity within the state from emitting air pollutants that will "contribute significantly to nonattainment" or "interfere with maintenance" of the applicable air quality standard in any other state.

EPA has previously taken action to approve good neighbor SIPs for several pollutants and the modifications being made to the FIP are not expected to contradict those approvals. On October 20, 2015 (80 FR 63436), EPA approved Minnesota's SIP as addressing the State's CAA section 110(a)(2)(D)(i)(I) obligations under the 2010 NO₂ NAAQS. The approval of Minnesota's 2010 NO₂ good neighbor SIP was based on low design values for Minnesota and surrounding states, with the highest neighboring state showing a design value of 49 parts per billion (ppb), less than half of the 100 ppb standard. This approval was based on monitoring data from 2011 to 2013. Therefore, the FIP, promulgated in 2013, but not immediately requiring reductions, would not have had an impact on that data set.

On October 10, 2018 (83 FR 50849), EPA approved Minnesota's SIP as addressing the State's CAA section 110(a)(2)(D)(i)(I) obligations under the 2012 PM_{2.5} NAAQS. In the proposed SIP approval, EPA explained that Minnesota found, and EPA's review confirmed, that all areas in other states where Minnesota emissions had the potential to impact monitored PM_{2.5} air quality, with the exception of one monitor in Allegheny County, Pennsylvania, were attaining the 2012 annual PM_{2.5} NAAQS based on 2014-2016 data. (83 FR 39970, August 13, 2018). The emissions limits promulgated in the 2013 FIP were not yet in effect during this period, and thus the associated reductions did not impact the EPA's assessment of attainment. Minnesota further determined that its impact on air quality monitors in Pennsylvania was projected to be less than 1% of the 2012 annual PM_{2.5} NAAQS, an insignificant contribution based on the air quality threshold that EPA had previously used to identify linkages between upwind states and downwind air quality problems under CAA section 110(a)(2)(D)(i)(I). Minnesota's determination was based on EPA's source apportionment modeling projecting upwind state contributions to downwind monitors using 2011 base case emissions, which was also conducted prior to the effectiveness of the emission limits promulgated in the 2013 FIP. The revised FIP limit at Minntac represents greater control than was assumed in Minnesota's and EPA's analysis supporting approval of the 2012 PM_{2.5} good neighbor SIP.

To the extent EPA has not acted on a pending good neighbor

SIP under CAA section 110(a)(2)(D)(i)(I), EPA is not in this action pre-determining its approvability. On October 1, 2018, the State of Minnesota submitted to EPA a SIP submittal addressing Minnesota's interstate transport requirements under CAA section 110(a)(2)(D)(i)(I) with respect to the 2015 ozone NAAQS. EPA has not yet taken action on Minnesota's October 1, 2018 SIP submittal. We will consider emissions from the state and whether the state is significantly contributing to or interfering with maintenance of the 2015 ozone NAAQS in any other state when we take action on the SIP.

III. Final Action

For the reasons stated in the proposed FIP revision, EPA is finalizing the revised BART emission limit and related requirements for the U.S. Steel Minntac facility as proposed.

IV. Statutory and Executive Order Reviews

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

This action is exempt from review by the Office of Management and Budget (OMB) because it is a rule of particular applicability and only affects one facility, U.S. Steel's Minntac taconite plant located in Mt. Iron, Minnesota.

B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs

This action is not an Executive Order 13771 regulatory action because this action is not significant under Executive

Order 12866.

C. Paperwork Reduction Act (PRA)

This action does not impose an information collection burden under the provisions of the PRA, 44 U.S.C. 3501 *et seq.* Under the Paperwork Reduction Act, a "collection of information" is defined as a requirement for "answers to . . . identical reporting or recordkeeping requirements imposed on ten or more persons" 44 U.S.C. 3502(3)(A). Because the FIP applies to just one facility, the PRA does not apply. See 5 CFR 1320(c).

D. Regulatory Flexibility Act (RFA)

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. EPA's action revises control requirements at one source. The Regional Haze FIP that EPA is promulgating for purposes of the regional haze program consists of imposing Federal control requirements to meet the BART requirement for NO_x emissions on specific units at one source in Minnesota. The net result of the FIP action is that EPA is finalizing emission controls on the indurating furnaces at one taconite facilities and this source is not owned by small entities, and therefore is not a small entity.

E. Unfunded Mandates Reform Act (UMRA)

EPA has determined that this rule does not contain a Federal mandate as described in UMRA, 2 U.S.C. 1531-1538, that

may result in expenditures that exceed the inflation-adjusted UMRA threshold of \$100 million by State, local, or Tribal governments or the private sector in any one year. In addition, this rule does not contain a significant Federal intergovernmental mandate as described by section 203 of UMRA nor does it contain any regulatory requirements that might significantly or uniquely affect small governments.

F. 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.

G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This rule does not have tribal implications, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this rule. However, EPA did discuss this action in conference calls with the Minnesota Tribes.

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

EPA interprets EO 13045 as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it does not establish an

environmental standard intended to mitigate health or safety risks. This action addresses regional haze and visibility protection. Further, because this amendment to the current regulation will require controls that will cost an amount equal to or less than the cost of controls required under the current regulation, it is not an economically significant regulatory action. However, to the extent this rule will limit emissions of NO_x, SO₂, and PM, the rule will have a beneficial effect on children's health by reducing air pollution.

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

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

J. National Technology Transfer and Advancement Act

Section 12 of the National Technology Transfer and Advancement Act (NTTAA) of 1995 requires Federal agencies to evaluate existing technical standards when developing a new regulation. To comply with NTTAA, EPA must consider and use "voluntary consensus standards" (VCS) if available and applicable when developing programs and policies unless doing so would be inconsistent with applicable law or otherwise impractical.

VCS are inapplicable to this action because application of those requirements would be inconsistent with the CAA.

K. Executive Order 12898: Federal Actions to Address

Environmental Justice in Minority Populations and Low-Income Populations

We have determined that this rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994), 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.

L. Congressional Review Act (CRA)

This rule is exempt from the CRA because it is a rule of particular applicability.

M. Determination Under Section 307(d)

Pursuant to CAA section 307(d)(1)(B), this action is subject to the requirements of CAA section 307(d), as it revises a FIP under CAA section 110(c).

N. Judicial Review

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[insert date 60 days after date of publication in the Federal Register]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it

extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. See CAA section 307(b) (2) .

List of Subjects in 40 CFR Part 52

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

This document of the Environmental Protection Agency was signed on January 11, 2021, by Andrew Wheeler, Administrator, pursuant to a settlement agreement between EPA and U.S. Steel that required the final rule to be signed no later than January 20, 2021. That document with the original signature and date is maintained by EPA. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned EPA Official re-signs the document for publication, as an official document of the Environmental Protection Agency. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Jane Nishida
Acting Administrator

For the reasons stated in the preamble, EPA amends title 40 CFR part 52 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.*

2. In § 52.1235 revise paragraph (b)(1)(iii) to read as follows:

§52.1235 Regional haze.

* * * * *

(b) (1) * * *

(iii) *United States Steel Corporation, Minntac*: An aggregate emission limit of 1.6 lbs NO_x/MMBtu, based on a 30-day rolling average, shall apply to the combined NO_x emissions from the five indurating furnaces: Line 3 (EU225), Line 4 (EU261), Line 5 (EU282), Line 6 (EU315), and Line 7 (EU334). To determine the aggregate emission rate, the combined NO_x emissions from lines 3, 4, 5, 6 and 7 shall be divided by the total heat input to the five lines (in MMBTU) during every rolling 30-day period commencing either upon notification of a starting date by United States Steel Corporation, Minntac, or with the 30-day period from September 1, 2019 to September 30, 2019, whichever occurs first. The aggregate emission rate shall subsequently be determined on each day, 30 days after the starting date contained in such notification or September 30, 2019, whichever

occurs first.

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