6560-50-P

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 52**

**[EPA-R05-OAR-2021-0536; FRL-9802-02-R5]**

# Approval and Promulgation of Air Quality Implementation Plans; Michigan; Federal Implementation Plan for the Detroit Sulfur Dioxide Nonattainment Area

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is promulgating a Federal Implementation Plan (FIP) for attaining the 2010 sulfur dioxide ($SO_2$) primary national ambient air quality standard (NAAQS) for the Detroit $SO_2$ nonattainment area. The FIP includes an attainment demonstration and other elements required under the Clean Air Act (CAA). In addition to an attainment demonstration, the FIP addresses the requirement for meeting reasonable further progress (RFP) toward attainment of the NAAQS, reasonably available control measures and reasonably available control technology (RACM/RACT), enforceable emission limitations and control measures to provide for NAAQS attainment, and contingency measures. This action supplements a prior action which found that Michigan had satisfied emission inventory and nonattainment new source review (NSR) requirements for this area but had not met requirements for the elements addressed in the FIP. The FIP provides for attainment of the 2010 primary $SO_2$ NAAQS in the Detroit $SO_2$ nonattainment area and

meets the other applicable requirements under the CAA.

**DATES:** This final rule is effective on **[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-2021-0536. All documents in the docket 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 through *www.regulations.gov* or 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 and facility closures due to COVID-19. We recommend that you telephone Abigail Teener, Environmental Engineer, at (312) 353-7314 before visiting the Region 5 office.

**FOR FURTHER INFORMATION CONTACT:** Abigail Teener, Environmental Engineer, Attainment Planning and Maintenance Section, Air Programs Branch (AR18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, telephone number: (312) 353-7314, email address: *teener.abigail@epa.gov*.

**SUPPLEMENTARY INFORMATION:**

## I. Background Information

Following the promulgation in 2010 of a 1-hour primary $SO_2$ NAAQS, on August 5, 2013, EPA designated the Detroit area within the State of Michigan as nonattainment for this NAAQS, in conjunction with designating multiple areas in other states as nonattainment (78 FR 47191).

For a number of nonattainment areas, including the Detroit area, EPA published an action on March 18, 2016, effective April 18, 2016, finding that Michigan and other pertinent states had failed to submit the required $SO_2$ nonattainment plan by the submittal deadline (81 FR 14736). This finding initiated a deadline under CAA section 179(a) for the potential imposition of 2-to-1 NSR offset and Federal highway funding sanctions. Additionally, under CAA section 110(c), the finding triggered a requirement that EPA promulgate a FIP within two years of the finding unless, by that time, (a) the state had made the necessary complete submittal, and (b) EPA had approved the submittal as meeting applicable requirements.

Michigan submitted the Detroit $SO_2$ attainment plan on May 31, 2016, and submitted associated final enforceable measures on June 30, 2016. Michigan's submission of a complete attainment plan terminated the deadlines for imposing the 2-to-1 NSR offset sanctions and Federal highway funds sanctions, pursuant to 40 CFR 52.31(d)(5), but it did not terminate EPA's FIP obligation. On March 19, 2021, EPA partially approved and partially disapproved Michigan's $SO_2$ plan as submitted in 2016 (86 FR 14827). EPA approved the base-year emissions inventory and

affirmed that the NSR requirements for the area had previously been met on December 16, 2013 (78 FR 76064). EPA also approved the enforceable control measures for two facilities. At that time, EPA disapproved the attainment demonstration, as well as the requirements for meeting RFP toward attainment of the NAAQS, RACM/RACT, and contingency measures. Additionally, EPA disapproved the plan's control measures for two facilities as insufficient to demonstrate attainment. These disapprovals triggered new sanctions clocks under CAA section 179(a).

As Michigan has not submitted an approvable plan for the Detroit nonattainment area, EPA published a notice of proposed rulemaking on June 1, 2022, proposing a FIP for the Detroit nonattainment area (87 FR 33095). EPA proposed limits and associated requirements for U.S. Steel (Ecorse and Zug Island), EES Coke, Cleveland-Cliffs Steel Corporation (formerly AK or Severstal Steel), and Dearborn Industrial Generation (DIG). EPA also proposed to include in its analysis the Carmeuse Lime emission limits specified in Permit to Install 193-14A and the DTE Energy (DTE) Trenton Channel emission limits specified in Permit to Install 125-11C, which had already been incorporated into Michigan’s SIP.

EPA proposed to conclude that the FIP meets the requirements set forth in the CAA to provide for the Detroit area to attain the $SO_2$ NAAQS. Finally, EPA proposed to conclude that the FIP satisfies the other applicable requirements for nonattainment areas, including requirements for RACM/RACT, RFP,

and contingency measures. The proposal supplemented the previous action in which EPA concluded that Michigan had met the requirements for a suitable emissions inventory and nonattainment NSR program.

## II. Public Comments

The comment period on the proposed action described above closed on July 18, 2022. EPA held a virtual public hearing on June 16, 2022. The transcript of the public hearing is available in the docket for this action. EPA received 14 written comments, seven of which were supportive and seven of which were adverse. EPA also received verbal comments from four individuals at the public hearing, all of which were adverse or partially adverse comments. The adverse comments are summarized below along with EPA's responses.

*Comment*: The commenters contend that EPA's modeling demonstration has not correctly accounted for all the $SO_2$ sources in the area as well as short-term spikes in emissions. In particular, the commenters suggest that EPA did not sufficiently account for the Marathon Refinery emissions, as they were calculated using maximum heat input multiplied by emissions factors. The commenters stated that emission factors, particularly AP-42 emission factors, are intended to calculate average emission levels and are not appropriate for calculating modeling inputs to address the short-term $SO_2$ NAAQS. The commenters recommend EPA use another method for calculating Marathon Refinery emissions, such as continuous emissions

monitoring, stack testing, vendor guarantees and stack testing data from similar facilities, material balance calculations, or optical remote sensing.

*Response*: Section 8.2.2.b of EPA's *Guideline on Air Quality Models* (appendix W to 40 CFR part 51) (appendix W) requires regulatory modeling of inert pollutants such as $SO_2$ to use the emission input data given in Table 8-1 of appendix W. For stationary point sources subject to SIP emission limit evaluation for compliance with short-term standards such as the 1-hour $SO_2$ NAAQS, the modeled emission rate is required to be based on the maximum allowable emission limit or federally enforceable permit limit, on actual or design capacity of the point source (whichever is greater) or federally enforceable permit conditions, and on continuous operation for all hours of each time period under consideration.

As stated in the technical support document (included in the docket for this action), Marathon Refinery's emission units were modeled based on maximum uncontrolled emissions – a rate that is higher, and consequently more conservative in avoiding underestimation of emissions, than would be a limited emission rate. The maximum uncontrolled emission rates for Marathon Refinery were determined based on the maximum heat input of each modeled point source and emission factors derived from the hydrogen sulfide ($H_2S$) and total reduced sulfur (TRS) concentration of the refinery fuel gas combusted in each emission unit. The $H_2S$/TRS concentration of the fuel gas is a

representative source-specific concentration that was used to determine a source-specific emission factor as opposed to an AP-42 emission factor that may be determined based on average emissions across different facilities.

Additionally, the commenters recommend different methods for estimating short-term emissions instead of using the source-specific emission factor used in the modeling, including continuous emissions monitoring, stack testing, vendor guarantees and stack testing data from similar facilities, material balance calculations, or optical remote sensing. All of these methods would be suitable for determining actual emissions. However, EPA's modeling instead accounts for maximum uncontrolled emissions, which are higher and more conservative than actual emissions, based on each emission unit's maximum capacity and combusted fuel gas. Therefore, EPA believes it has appropriately modeled the emissions for Marathon Refinery.

*Comment*: Five commenters commented on the background concentration used in the model. Three commenters believe that the background concentration used in EPA's modeling analysis may be underestimated. To avoid double-counting concentrations associated with sources explicitly modeled in the demonstration, EPA's background concentration calculation was derived by removing wind directions between 40 and 205 degrees, which the commenters contend is overly broad and eliminates the highest concentrations that come from the easterly winds. In particular, a commenter states that Michigan's original

background concentration calculation approach excluded wind directions between 40 and 180 degrees, and then Michigan later changed its approach, which EPA adopted, to removing wind directions between 40 and 205 degrees without adequate justification. A commenter suggests that sources in Ohio, western Pennsylvania, Indiana, Kentucky, Illinois, eastern Michigan, and Canada, some of which are relatively close and emit much more $SO_2$ than the background sources that EPA considers, should be included in the background concentration. The commenter states that although $SO_2$ concentrations decline with distance, they can still remain significant with respect to the difference between the maximum modeled concentration and the NAAQS.

One commenter contends that the FIP does not adequately justify the approach for the Detroit $SO_2$ nonattainment area given the large number of $SO_2$ sources. Additionally, the commenter points out that EPA based its approach for calculating background concentrations on EPA guidance for calculating $NO_X$ background concentrations, which may not be appropriate for $SO_2$.

The commenters also state that the uncertainty of the background estimate was not provided, and the fact that the approach depends on the meteorological and monitoring data used, the definition of the wind sector, the wind sector width, and year and seasons considered adds to this uncertainty. The commenters also state that the error is higher at lower concentrations, which should be considered. The commenters note

that an accurate background concentration calculation is critical given that the maximum modeled concentration is very close to the NAAQS.

Additionally, one commenter alleges that the meteorological data at the Allen Park site is not representative due to trees near the site that shelter the tower because they exceed its height. The commenter states that the wind directions at Allen Park diverge from other Michigan sites and recommend that EPA use airport data instead.

The commenters recommend that EPA perform trajectory analyses to eliminate the possibility that concentrations at the endpoints of the exclusion are due to extreme meteorology instead of stationary sources, analyze different exclusion ranges, and make conservative assumptions to minimize modeling uncertainties. One commenter recommends that EPA model background estimates using the largest sources within 500 kilometers, use other monitoring sites, which may include using sites classified as "source" or "population" instead of "background" and/or deploying additional monitoring sites, and use a meaningful margin of error to account for model uncertainty in the background concentration analysis.

However, two commenters contend that the background concentration that EPA used was overly conservative and reflects an overestimate of background concentrations, as the maximum background concentration used in the model (11.9 parts per billion (ppb)) occurs around the 33-degree wind direction, which

is directly over a source that was explicitly modeled in the demonstration and near other sources. One commenter points out that the Trinity monitor, which is upstream of these sources, recorded a concentration of 0.7 ppb for the same hour that was used for the maximum background concentration.

*Response*: Sections 8.3.1.a and 8.3.3 of appendix W discusses that background air quality should not include the ambient impacts of the project source under consideration. Appendix W further states that nearby sources that cause a significant concentration gradient in the vicinity of the source(s) under consideration for emissions should not be included in the background monitoring data and should be explicitly modeled. The portion of the background attributable to natural sources, other unidentified sources near the project, and regional transport from distant sources, both domestic and international, can be represented by air quality monitoring data. Per Table 8-1 of appendix W, these other sources include both minor sources and distant major sources. Section 8.3.2.b of appendix W states that EPA recommends the use of data from the monitor closest to and upwind of the project area. Section 8.3.2.c of appendix W also discusses that there are cases in which the current design value may not be appropriate for use as a background concentration, including situations with a modifying source where the existing facility is determined to impact the ambient monitor. In these cases, the background concentration can be determined by excluding values when the source in question is

impacting the monitor.

In the case of the analysis for the Detroit $SO_2$ nonattainment area, monitor values from the Allen Park monitor (AQS 26-163-0001) that occurred when the wind directions were between 40 and 205 degrees were removed from the calculations for the background concentration. The Allen Park monitor is on the western boundary of the Detroit $SO_2$ nonattainment area and is upwind of the explicitly modeled sources in the analysis due to predominant southwesterly winds. The directions between 40 and 205 were chosen as concentrations from these directions would be double counting the impacts from the explicitly modeled sources within the analysis. This excludes all modeled sources to the northeast (U.S. Steel, EES Coke, Carmeuse Lime, Marathon Refinery, Cleveland-Cliffs Steel Corporation, and DIG) and modeled sources to the south (DTE Trenton Channel and DTE Monroe). Examining the meteorological data collected from the Allen Park monitor, the highest concentrations measured at the monitor occur when the winds are from the northeast, which suggests that the monitor is being impacted by $SO_2$ emission sources from the Detroit area that are already included in the modeling analysis. Section 8.3.2.c.i of appendix W discusses that a 90-degree sector downwind of the source(s) may be used to determine the area of impact. In the case of the Detroit nonattainment area, EPA did not exclude 45 degrees to the west of the northernmost sources. EPA did exclude 45 degrees west of the southern source that is farther from the monitor and for

which there would be more plume spread by the time $SO_2$ reaches the Allen Park monitor.

$SO_2$ is a localized, source-oriented pollutant, as described in section III of EPA's final rule revising the $SO_2$ NAAQS (75 FR 35520) and section 4.2.3.3 of appendix W. Section 8.3.3.d of appendix W states that portions of the background attributable to all other sources (e.g., natural sources, minor and distant major sources) should be accounted for through use of ambient monitoring data and determined by the procedures found in section 8.3.2 in keeping with eliminating or reducing the source-oriented impacts from nearby sources to avoid potential double-counting of modeled and monitored contributions. As section 8.3.3.d of appendix W describes, background concentrations inherently account for the impacts of minor and distant major sources with the use of appropriate monitoring data. Due to the localized nature of $SO_2$, impacts from localized sources are accounted for by either explicitly modeling these as nearby sources in the modeling analysis or through ambient air monitoring data. As localized sources were explicitly modeled as nearby sources in the analysis, and the referred guidance above was followed, EPA disagrees with the commenter that sources outside of the nonattainment area should be explicitly included in the background concentration as these would already be accounted for in the background concentration.

EPA disagrees with the commenter that the FIP does not adequately justify the approach for the Detroit $SO_2$ nonattainment

area given the large number of $SO_2$ sources and that the background calculations relied on EPA guidance. Section 8.1 of EPA's *$SO_2$ NAAQS Designations Modeling Technical Assistance Document* (TAD), which was most recently updated in August 2016, discusses how the methodology for calculating $NO_X$ background concentrations applies to $SO_2$. The TAD explains that the same methodology for $NO_X$ is applicable to $SO_2$ designations modeling based on use of the 99th percentile by hour of day and season for background concentration excluding periods when the dominant source(s) are influencing the monitored concentration.[1]

EPA agrees that an accurate background concentration is critical. EPA has accurately calculated background concentrations from the hourly monitoring data collected at the Allen Park ambient air monitoring station based on guidance from EPA's TAD and appendix W. An uncertainty analysis for background estimates is not required for regulatory air dispersion modeling analyses and therefore, was not provided in the technical support document for this action.

EPA disagrees that the meteorological data at the Allen Park site is not representative and that meteorological data from the airport should be used instead. The Allen Park monitoring site is an NCore monitoring site for the state of Michigan that also collects meteorological data. When comparing the wind roses of the Detroit Metropolitan Wayne County Airport

[1] *See* TAD, page 30. The TAD can be found at *https://www.epa.gov/so2-pollution/technical-assistance-documents-implementing-2010-sulfur-dioxide-standard*

(DTW) 2016 – 2020 wind data and the Allen Park 2018 – 2020 wind data, the wind roses are very similar in wind direction frequency and wind speed classes. One difference between the two sites is the prevalence of winds from the south/southwest (SSW), in which DTW experiences more frequent SSW winds than the Allen Park site. However, the sites experience similar easterly winds. As such, the trees near the Allen Park monitoring site are not causing the wind directions to diverge from the airport site; therefore, the wind measurements from the DTW airport should not be used instead. EPA also verified with Michigan that all monitors and meteorological instruments at the Allen Park monitoring site meet EPA's siting criteria. This monitoring site is subject to EPA audits and siting criteria are frequently checked and confirmed.

EPA disagrees that trajectory analyses need to be performed and that different exclusion ranges need to be examined. Pollution roses from the Allen Park monitor were examined by Michigan in the development of the background concentration. Pollution roses consider hourly meteorological conditions and ranges of wind directions in which $SO_2$ concentrations impact the monitor site. As was demonstrated by Michigan, the range of exclusion used in the FIP modeling analysis is acceptable as the pollution rose demonstrates that the Allen Park monitor was impacted by explicitly modeled nearby sources in this wind direction range. Therefore, trajectory analyses are not required for this analysis.

EPA disagrees with the commenter that modeled background estimates should be used to determine the background concentrations for the modeling analysis. Section 8.3.2.b of appendix W states that in most cases, EPA recommends using data from the monitor closest to and upwind of the project area. If several monitors are available, preference should be given to the monitor with characteristics that are most similar to the project area. The Allen Park monitor was chosen as a representative monitor for background concentrations for the Detroit nonattinment area due its location within the $SO_2$ nonattainment boundary and prevailing southwest winds that make the monitor upwind of Detroit.

EPA disagrees that the background concentrations are overly conservative; as explained above, EPA has followed relevant EPA guidance in determining background concentrations. EPA did exclude $SO_2$ concentrations from northeast of the Allen Park monitor based on data from the $SO_2$ pollution roses for the Allen Park monitor. These excluded impacts from explicitly modeled nearby sources in the modeling analysis to prevent double-counting impacts. EPA did not exclude 45 degrees to the west of the northernmost sources for the background concentration as plume spread from these sources would not have as great of an impact as more distant emission sources. Therefore, the exclusion range sufficiently excludes nearby sources in the area.

*Comment*: Four commenters commented on EPA's usage of rural

dispersion coefficients as part of the modeling analysis. EPA used rural dispersion coefficients to characterize three tall stacks in the modeling analysis to better correlate the modeled concentrations with modeling concentrations at two monitors in the Detroit nonattainment area. The commenters state that the heat island effect can cause higher concentrations during the night, which is shown with the urban coefficient option. The commenters recommend additional analysis to determine whether the $SO_2$ temporal distribution at the monitors can be extrapolated to the area of maximum $SO_2$ concentration near DTE Trenton Channel.

The commenters raise concern that the use of a rural dispersion coefficient for stacks at EES Coke, DTE Monroe, DTE River Rouge, and DTE Trenton Channel leads to significantly lowered predicted concentrations. The commenters claim that EPA did not properly document its model performance evaluation to support the claim that applying a rural dispersion coefficient to the listed sources was the most appropriate way to run the model. The commenters state that if EPA had properly applied an urban dispersion coefficient to the sources, the area could not model attainment.

*Response*: EPA agrees that the urban heat island effect can in some cases cause higher concentrations during the night. However, as was demonstrated in the document entitled "Analysis of Michigan Dispersion Coefficient Use" and the technical support document, both included in the docket for this action,

this was not the case when examining monitoring data in the Detroit nonattainment area for the Southwest High School and West Windsor monitors. Monitoring data from these monitors demonstrated that peak monitored impacts occurred during the daytime (between 12:00 PM – 3:00 PM) instead of at night. As described in the AERMOD Implementation Guide,[2] plumes from tall buoyant stacks, transported over the urban boundary layer at night, may be unaffected by the urban enhanced dispersion and may require special consideration on a case-by-case basis. The urban dispersion option in AERMOD only applies to nighttime and morning transition hours. Nighttime hours would normally be stable if not for the urban heat island effect, and the morning transition hours right after sunrise, when the atmosphere would transition from stable to convective conditions in a rural setting, might be more convective in urban conditions. Both monitored data at the Southwest High School and West Windsor sites, as well as modeled concentrations using the rural option for these stacks, showed peak concentrations outside of the nighttime and morning transition hours, which indicate the rural dispersion option is more appropriate for this set of stacks in this analysis.

EPA disagrees with the commenters that EPA did not properly document the model performance evaluation. Section 7.2.1.1.e of appendix W states that model users should consult with the

[2] *See* AERMOD Implementation Guide, pages 19-20, which can be found at *https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_implementation_guide.pdf*.

appropriate reviewing authority and the latest version of the AERMOD Implementation Guide when evaluating this situation. Further, Section 5.1 of the AERMOD Implementation Guide states that a more thorough case-specific justification will be needed to support excluding elevated sources from application of the urban option.[3] As these guidance documents state, a case-specific justification needs to be provided to support the exclusion of these stacks from the urban option, and the case-specific justification was provided within the technical support document as well as the document "Analysis of Michigan Dispersion Coefficient Use," which are both in the docket for this action. These documents demonstrated that the application of the urban option to the tall stacks at EES Coke, DTE Monroe, DTE River Rouge, and DTE Trenton Channel resulted in anomalously high concentrations due to plume height limitations in the model. As such, additional analysis is also not warranted to determine if the temporal distribution can be extrapolated to the DTE Trenton facility.

*Comment*: The commenter raises concern that the 50 kilometer distance from the nonattainment area is an inadequate cutoff for including major point sources. The commenter states that there are a number of large sources just beyond this distance that are not included in the background concentration.

*Response*: EPA disagrees that the 50 kilometer distance from the

[3] *See* the AERMOD Implementation Guide, page 20, which can be found at *https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_implementation_guide.pdf.*

nonattainment area is an inadequate cutoff for including major point sources. EPA used the maximum distance (50 kilometers) from the nonattainment area in its modeling analysis. Section 4.1.c of appendix W explains that due to the steady-state assumption, Gaussian plume models are generally considered applicable to distances less than 50 kilometers, beyond which, modeled predictions of plume impact are likely conservative. As such, AERMOD is not recommended for use in far-field (greater than 50 kilometers) dispersion applications. Since $SO_2$ is a source-oriented pollutant and not considered a regional pollutant for regulatory purposes, it is not appropriate to model beyond 50 kilometers. In this case, EPA explicitly modeled DTE Monroe, a source outside of the nonattainment area, in addition to the sources within the nonattainment area as a conservative measure. Please also refer to the responses above regarding background concentrations, specifically the response to comments about sources beyond 50 kilometers being included in the modeling analysis and background concentration.

*Comment*: The commenter states that EPA's modeling lacks transparency and detail, as EPA did not provide sufficient maps and tabular data, $SO_2$ levels throughout the nonattainment area, and information pertaining to understanding spatial and temporal exposure variation, locations of impacts, critical meteorological factors, culpable sources, background levels, etc.

*Response*: EPA's modeling analysis is available in the technical

support document, which is included in the docket for this action. In the technical support document, EPA provided maps of the areas of maximum concentration, as well as the modeling parameters used in the area of analysis, including background concentrations. As the focus of this action is to demonstrate attainment of the NAAQS, and the technical support document demonstrates that the areas of maximum concentration are below the NAAQS, EPA did not provide maps of $SO_2$ concentrations throughout the nonattainment area. However, EPA's modeling files are available to the public upon request. The maximum modeled concentration, including background concentrations, was 73.6 ppb and occurred approximately 4 kilometers to the northwest of DTE Trenton Channel's facility. Other modeled concentrations that were less than the maximum modeled design value at receptors in the nonattainment area were 71.5 ppb to the northeast of Cleveland-Cliffs Steel Corporation and DIG, 73.2 ppb on the northern fenceline of Zug Island (when U.S. Steel's Zug Island sources are in operation), and 68.7 ppb to the northeast of Carmeuse Lime.

*Comment*: EPA received three comments regarding the FIP's margin of safety and the health effects of $SO_2$, particularly for children in Detroit. The commenters state that the FIP does not provide an uncertainty analysis. The commenters contend that as the maximum modeled concentration is so close to the NAAQS (73.4 ppb compared to 75 ppb), the FIP does not provide any margin of safety. The commenters state that the model cannot be

considered conservative due to likely background concentration underprediction, the use of rural dispersion coefficients, and longer-term average emission rates. The commenters recommend that EPA either validate the model using the monitoring data from the $SO_2$ monitoring sites in the Detroit nonattainment area or set limits that produce modeled $SO_2$ concentrations well below the NAAQS.

The commenters argue that the NAAQS itself is not protective, as a health study of children in Detroit shows that 1-hour maximum $SO_2$ exposures were associated with increased odds of respiratory symptoms, even though the levels of $SO_2$ that the children were exposed to were generally below the NAAQS. One commenter states that children in Detroit have breathing issues due to pollution that cause them to miss school and cited a study that shows Southwest Detroit has some of the worst air pollution in the country. The commenters note that Detroit communities experience asthma rates that are 1.5-3 times the national average along with low rates of asthma controller utilization due to health care access, poverty, and caregiver issues.

*Response*: As described further in comment responses below, under section 109 of the CAA, EPA sets primary, or health-based, NAAQS for all criteria pollutants to provide requisite protection of public health, including the health of at-risk populations, with an adequate margin of safety. The health effects information provided by the commenters, which was

addressed in EPA's promulgation of the 2010 $SO_2$ NAAQS, is not in dispute in this rulemaking, and EPA in this action is not reopening the NAAQS itself which was established to protect public health with an adequate margin of safety. This rulemaking instead addresses the requirements needed for the Detroit area to meet the NAAQS. However, EPA is aware of the demographic data for the Detroit nonattainment area, and that the Detroit nonattainment area includes communities that are pollution-burdened and underserved, and environmental justice concerns are addressed in comment responses below.

EPA disagrees that the model cannot be considered conservative. In its modeling analysis, EPA used the maximum uncontrolled or maximum allowable emission rates for all sources in the Detroit nonattainment area. In reality, it is extremely unlikely that all sources would be operating at maximum emission rates simultaneously. Additionally, EPA's method of background concentration calculation, use of rural dispersion coefficients, and reliance on longer-term average emission rates follow EPA guidance and are appropriate for demonstrating attainment of the NAAQS, as explained in comment responses above and below.

*Comment*: Three commenters state that a taller combined stack at U.S. Steel will not significantly decrease $SO_2$ concentrations that affect public health in residential areas downwind of the facility.

*Response*: While EPA acknowledges that combining and raising the U.S. Steel Boilerhouse 2 stack will only decrease near-field $SO_2$

concentrations where current ambient concentrations threaten the NAAQS, EPA is requiring this stack construction in combination with new limits at U.S. Steel, a facility that has not previously had hourly $SO_2$ limits. Both of these control mechanisms are needed to ensure that the $SO_2$ concentrations in the Detroit area, including those in residential areas downwind of the facility, stay permanently below the NAAQS and result in protection of public health with an adequate margin of safety.

*Comment*: The commenters contend that long-term average limits alone do not provide for attainment of the one-hour $SO_2$ NAAQS, as 30-day average limits allow sources to operate at higher levels before and after shutdowns and remove incentives for sources to avoid malfunctions. The commenters believe that a long-term average limit should have supplemental limits governing the magnitude and frequency of short-term periods of emissions above the emission rate at which the longer-term average limit is set. Additionally, the commenters contend that EPA's use of national average adjustment factors for the DIG and Cleveland-Cliffs Steel Corporation 24-hour average limits is not justified.

*Response*: EPA disagrees with the commenter's statement that longer-term average limits alone do not provide for attainment of the 1-hour $SO_2$ NAAQS. EPA believes as a general matter that properly set, longer-term average limits are comparably effective in providing for attainment of the 1-hour $SO_2$ standard as are 1-hour limits. On April 23, 2014, EPA issued recommended guidance for meeting the statutory requirements in $SO_2$

nonattainment plans, in a document entitled, "Guidance for 1-Hour $SO_2$ Nonattainment Area SIP Submissions" (2014 $SO_2$ Guidance).[4] EPA's 2014 $SO_2$ Guidance sets forth in detail the reasoning supporting its conclusion that the distribution of emissions that can be expected in compliance with a properly set longer-term average limit is likely to yield overall air quality protection that is as good as a corresponding hourly emissions limit set at a level that provides for attainment. EPA's 2014 $SO_2$ Guidance specifically addressed this issue as it pertains to requirements for attainment demonstrations for $SO_2$ nonattainment areas under the 2010 NAAQS, especially with regard to the use of appropriately set comparably stringent limitations based on averaging times as long as 30 days. EPA found that a longer-term average limit which is comparably stringent to a short-term average limit is likely to yield comparable air quality; and that the net effect of allowing emissions variability over time but requiring a lower average emission level is that the resulting worst-case air quality is likely to be comparable to the worst-case air quality resulting from the corresponding higher short-term emission limit without variability. *See* 2014 $SO_2$ Guidance.

Any accounting of whether a 30-day average limit provides for attainment must consider factors reducing the likelihood of hourly exceedances as well as factors creating a risk of additional exceedances. To facilitate this analysis, EPA used

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[4] *See https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf*

the concept of a critical emission value (CEV) for the $SO_2$-emitting facilities which are being addressed in a nonattainment plan. The CEV is the continuous 1-hour emission rate which is expected to provide for the average annual 99th percentile maximum daily 1-hour concentration to be at or below 75 ppb, which in a typical year means that fewer than four days have maximum hourly ambient $SO_2$ concentrations exceeding 75 ppb. *See* 2014 $SO_2$ Guidance. EPA recognizes that a 30-day limit can allow occasions in which emissions exceed the CEV, and such occasions yield the possibility of hourly exceedances occurring that would not be expected if emissions were always at the CEV. At the same time, the establishment of the 30-day average limit at a level below the CEV means that emissions must routinely be lower than they would be required to be with a 1-hour emission limit at the CEV.

The proposed FIP provides an illustrative example of the effect that application of a limit with an averaging time longer than one hour can have on air quality.[5] This example illustrates both (1) the possibility of elevated emissions (emissions above the CEV) causing exceedances not expected with emissions at or below the CEV and (2) the possibility that the requirement for routinely lower emissions would result in avoiding exceedances that would be expected with emissions at the CEV. In this example, moving from a 1-hour limit to a 30-day average limit

[5] For the full discussion of the hypothetical example, *see* the proposed FIP, June 1, 2022 (87 FR 33095) at page 33100 at https:// www.regulations.gov, Docket ID Number EPA-R05-OAR-2021-0536.

results in one day that exceeds 75 ppb that would otherwise be below 75 ppb, one day that is below 75 ppb that would otherwise be above 75 ppb, and one day that is below 75 ppb that would otherwise be at 75 ppb. In net, the 99th percentile of the 30-day average limit scenario is lower than that of the 1-hour limit scenario, with a design value of 67.5 ppb rather than 75 ppb. Stated more generally, this example illustrates several points: (1) The variations in emissions that are accounted for with a longer-term average limit can yield higher concentrations on some days and lower concentrations on other days, as determined by the factors influencing dispersion on each day, (2) one must account for both possibilities, and (3) accounting for both effects can yield the conclusion that a properly set longer-term average limit can provide as good or better air quality than allowing constant emissions at a higher level. As noted in the proposed FIP, and as described in appendix B of the 2014 $SO_2$ guidance, EPA expects that an emission profile with a comparably stringent 30-day average limit is likely to have a net effect of having a lower number of exceedances and better air quality than an emissions profile with maximum allowable emissions under a 1-hour emission limit at the critical emission value. Thus, EPA continues to assert that appropriately set 30-day emission limits can be protective of the 1-hour $SO_2$ standard.

The long-term average limits included in the FIP are for a period of 30 days for DTE Trenton Channel and 24 hours for DIG and Cleveland-Cliffs Steel Corporation. As stated above, EPA

posits that limits based on periods of as long as 30 days (720 hours), determined in accordance with EPA's April 2014 guidance, can, in many cases, be reasonably considered to provide for attainment of the 2010 $SO_2$ NAAQS. Since 30 days for DTE Trenton Channel and 24 hours for DIG and Cleveland-Cliffs Steel Corporation are equal to or well within, respectively, the period of 30 days, EPA has concluded that a limit based on a period of 30 days for DTE Trenton Channel and limits based on a period of 24 hours for DIG and Cleveland-Cliffs Steel Corporation determined in accordance with EPA's April 2014 guidance can be reasonably considered to provide for attainment. While the longer-term averaging limits allow occasions in which emissions may be higher than the level that would be allowed with the 1-hour limit, the limits compensate by requiring average emissions to be adequately lower than the level that would otherwise have been required by a 1-hour average limit.

As noted by the commenters, EPA's April 2014 guidance addresses the use of supplemental short-term limits. While supplemental limits can further strengthen the justification for the use of longer-term limits, they are not necessary to provide for attainment of the 2010 $SO_2$ NAAQS. In this case, as discussed further below, DTE Trenton Channel has been permanently shut down during the comment period for this action, and DIG and Cleveland-Cliffs Steel Corporation are not the primary contributors to the areas of maximum modeled concentrations. Therefore, EPA is not considering supplemental limits for DTE

Trenton Channel, DIG, or Cleveland-Cliffs at this time.

Regarding the adjustment factors used for the daily DIG and Cleveland-Cliffs limits, EPA believes that the appendix D ratios are acceptable adjustment factors in this specific situation for use in calculating a long-term average emission limit when hourly $SO_2$ emissions data are not available for use in calculating source-specific emission ratios. Although these daily limits are included in the FIP, EPA is not relying on emission reductions from either DIG or Cleveland-Cliffs Steel Corporation to demonstrate attainment of the 2010 $SO_2$ NAAQS. Rather, EPA has included these limits in the FIP to ensure that $SO_2$ concentrations in the Detroit area stay permanently below the NAAQS. Since these sources are not the controlling sources with respect to the attainment demonstration, reliance on the default adjustment factors to account for the emissions variability provides a suitable estimate in this instance where no other data is available.

For the reasons stated above and in the proposed rule, EPA concludes that the use of long-term average emission limits for DTE Trenton Channel, DIG, and Cleveland-Cliffs Steel Corporation is consistent with recommendations discussed in EPA's April 2014 guidance and adequately protects against violations of the 1-hour $SO_2$ NAAQS.

*Comment*: The commenters disagree with EPA’s interpretation of RACT for $SO_2$ as the control technology necessary to achieve the NAAQS and point out that RACT has been defined for other

pollutants as the lowest emission limit that is reasonably available considering technological and economic feasibility. The commenters contend that the U.S. Steel emission limits do not achieve a reduction in $SO_2$, as the maximum allowable annual emissions, assuming maximum operation for every hour in a year, are higher than U.S. Steel's past annual emissions. The commenters believe that EPA should consider alternatives to the requirement for combining and raising the U.S. Steel Boilerhouse 2 stacks as well as complete a RACT analysis considering technological and economic feasibility for U.S. Steel, DIG, Cleveland-Cliffs, and EES Coke.

*Response*: Section 172 (c)(1) of the CAA provides that "such plan shall provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the national primary ambient air quality standards." EPA has long defined RACT for $SO_2$ as that control technology which will achieve the NAAQS within statutory timeframes. *See State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Proposed Rule*, 57 FR 13498, 13547 (April 16, 1992) (General Preamble); *see also*, $SO_2$ Guideline Document, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, 27711, EPA-452/R-94-

008, February 1994 ($SO_2$ Guideline), at 6-39. For most criteria pollutants, RACT is control technology that is reasonably available considering technological and economic feasibility. The definition of RACT for $SO_2$ is that control technology which is necessary to achieve the NAAQS (40 CFR 51.100(o)). Since $SO_2$ RACT is already defined as the technology necessary to achieve the $SO_2$ NAAQS, control technology which failed to achieve the NAAQS would fail to be $SO_2$ RACT. EPA intends to continue defining RACT for $SO_2$ as that control technology which will achieve the NAAQS, as it has in numerous SIP actions since promulgating the 2010 NAAQS. Here, the emission limits in the FIP and previously approved into the SIP provide for such NAAQS attainment, as demonstrated by the modeling. Consequently, under EPA's longstanding approach to $SO_2$ RACT, the CAA section 172(c)(1) RACM/RACT requirement is met. CAA section 172(c)(6) also requires plans to include enforceable emission limits and control measures as may be necessary or appropriate to provide for attainment. The emission limits and associated requirements included as part of the FIP analysis show attainment of the 2010 $SO_2$ NAAQS of 75 ppb, as the modeling analysis, which is detailed in the technical support document for this action, shows a maximum concentration of 73.6 ppb. Thus, further controls are not necessary to satisfy the requirement for RACT.[6]

[6] *See* $SO_2$ Guideline Document, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, EPA-452/R-94-008, February 1994. *See also* EPA's 2014 $SO_2$ Nonattainment Guidance; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990 at 57 FR 13498 (April 16, 1992).

As determined through air dispersion modeling, emission limits and associated requirements at the U.S. Steel, EES Coke, DIG, Cleveland-Cliffs Steel Corporation, DTE Trenton Channel, and Carmeuse Lime facilities are needed to reach attainment in the Detroit area. While EPA recognizes the commenters' concern that the annual maximum emissions allowed under the U.S. Steel limits set forth in the FIP are larger than actual emissions in previous years, EPA believes that setting limits at U.S. Steel, a facility that has not previously had hourly $SO_2$ emission limits, is critically important to ensuring that $SO_2$ concentrations in the Detroit area stay permanently below the NAAQS.

*Comment*: The commenters point out that the FIP does not require monitoring, recordkeeping, or reporting from U.S. Steel No. 2 Baghouse or DIG Flares 1 and 2.

*Response*: EPA notes that U.S. Steel No. 2 Baghouse was mistakenly omitted from 40 CFR 52.1189(b)(3)(ii) in the proposed regulatory text and EPA has updated 40 CFR 52.1189(b)(3)(ii) to include U.S. Steel No. 2 Baghouse. Recordkeeping and reporting for U.S. Steel No. 2 Baghouse are required under 40 CFR 52.1189(b)(5)(ii) and 40 CFR 52.1189(b)(6)(ii), respectively. Regarding compliance for DIG Flares 1 and 2, EPA has added the requirement to 40 CFR 52.1189(e)(2) that the owner or operator verify compliance with the limit for Boilers 1, 2, 3 and Flares 1 and 2 (combined) by following the procedures and methodologies contained in the document entitled "Protocol for Demonstrating

Continuous Compliance with the Emission Limitations of ROP MI-ROP-N6631-2004" as set forth in its operating permit (Permit MI-ROP-N6631-2012a, modified June 28, 2016).

*Comment*: EPA received seven comments regarding emissions monitoring requirements. The commenters believe that the FIP should require all units, particularly at U.S. Steel and DIG, to install a Continuous Emission Monitoring System (CEMS) on all units to monitor $SO_2$ emissions directly, which the commenters state would be a much more accurate and transparent way to monitor emissions than what the proposed FIP requires. The commenters state that it is unclear as to why the FIP would require CEMS to be installed at U.S. Steel Boilerhouse 2 but not at U.S. Steel Boilerhouse 1 and why the FIP would require CEMS for the Cleveland-Cliffs Steel Corporation blast furnaces but not the U.S. Steel blast furnaces. The commenters also state that it is unclear as to why a Predictive Emissions Monitoring System (PEMS) is allowed in lieu of CEMS to monitor DIG emissions. A commenter states that CEMS are available and commonly used and that it is particularly important that $SO_2$ emissions are monitored closely as the maximum modeled $SO_2$ concentration is very close to the NAAQS. The commenters recommend that EPA require CEMS to be installed at each U.S. Steel and DIG unit, and that EPA explain the choice of monitoring technique if CEMS is not deemed appropriate, considering regulatory needs, monitoring technology costs, and relative benefits of the monitoring technique.

*Response*: With regard to DIG units, the FIP requires compliance as set forth in its operating permit (Permit MI-ROP-N6631-2012a, modified June 28, 2016). As described in the response above regarding DIG Flares 1 and 2 compliance, EPA added additional compliance language to 40 CFR 52.1189(e)(2). These compliance mechanisms are currently in place and work to sufficiently monitor hourly $SO_2$ emissions at the DIG facility; therefore, EPA is not requiring CEMS on the DIG units at this time.

With regard to U.S. Steel units, the FIP requires CEMS on Boilerhouse 2, the highest-emitting unit at the facility, as part of the new stack construction. For the remaining U.S. Steel units, the FIP requires the owner or operator to calculate hourly $SO_2$ emissions using all raw material sulfur charged into each affected emission unit and assumes 100 percent conversion of total sulfur to $SO_2$ to be conservative. Aside from the U.S. Steel boilerhouses, blast furnaces, and the associated furnace flares, the other emission limits for other U.S. Steel units are very small (all less than 5 pounds per hour (lbs/hr) and only one over 1 lbs/hr). Many large $SO_2$ sources, such as blast furnace stoves, blast furnace flares, and (reheat) furnaces, combust blast furnace gas and/or coke oven gas. These gases are considered fuel for those units. EPA believes that frequent fuel sampling will provide sufficiently accurate measurement of $SO_2$ emissions. Fuel sampling has historically been used to determine emissions, and EPA believes this method is acceptable here. The FIP requires the owner or operator of each applicable

U.S. Steel unit to submit a Compliance Assurance Plan (CAP) for the unit that specifies calculation methodology, procedures, and inputs used in these calculations. EPA expects that the procedures shall include a fuel sampling schedule at a frequency that captures any variation in fuel sulfur content. Additionally, while Boilerhouse 1 is not currently operating, U.S. Steel has committed not to combust coke oven gas at Boilerhouse 1 upon restart, which is reflected in the Boilerhouse 1 limit set forth in the FIP. EPA concludes that the required CAPs, as well as the quarterly requirement to submit calculated hourly $SO_2$ emissions to EPA, are sufficient for determining compliance with the emission limits set forth in the FIP. However, the requirement of CAPs does not preclude future requirements or installation of CEMS on these units.

*Comment*: The commenters believe that the requirement that U.S. Steel submit a CAP for units that do not require CEMS detailing the calculation methodology, procedures, and inputs that will be used for monitoring $SO_2$ emissions is insufficient. The commenters believe that U.S. Steel's CAPs should undergo public notice and comment, but point out that this is not possible as the plans are required to be submitted after the effective date of the FIP. Additionally, the commenters pointed out that the FIP does not allow EPA the authority to review, modify, or reject a CAP, and that the CAP does not require continuous monitoring.

*Response*: EPA disagrees with the commenters' position that the

requirement for U.S. Steel to submit CAPs is insufficient. The public is not an approving authority for CAPs, and therefore, there is no requirement that the owner or operator submit the CAPs for public review and approval. However, for transparency and ease in accessibility, EPA will post the CAPs to the Detroit $SO_2$ FIP website at *https://www.epa.gov/mi/detroit-so2-federal-implementation-plan*. Although the FIP does not require EPA's explicit approval of CAPs, EPA has authority to enforce the requirement to submit CAPs that meet the requirements set forth in the FIP. Failure to submit a CAP or submission of a CAP that does not meet the requirements set forth in the FIP would be a violation of the FIP. The owner or operator of the U.S. Steel facility is required to maintain records of hourly emissions calculated in accordance with the CAP under 40 CFR 52.1189(b)(5)(ii) and to report these hourly mass balance calculations, as well as excess emissions, quarterly, and no later than the 30$^{th}$ day following each quarter under 40 CFR 52.1189(b)(6)(ii) and 40 CFR 52.1189(b)(6)(iv), respectively.

*Comment*: EPA received three comments about idled units at U.S. Steel. The commenters contend that although the FIP requires that a CAP be submitted for each idled U.S. Steel unit under 40 CFR 52.1189(b)(4), the FIP does not require U.S. Steel to comply with emission limits or monitoring requirements for idled units. One commenter states that the community is very concerned with the reopening of U.S. Steel and believes the FIP should include limits for idled units.

*Response*: The FIP includes limits for all units, regardless of operating status. The idled units referenced in 40 CFR 52.1189(b)(4) each have limits under 40 CFR 52.1189(b)(1)(i). Additionally, emissions from these units are required to be monitored and reported under 40 CFR 52.1189(b)(3)(ii) and 40 CFR 52.1189(b)(6)(ii), respectively.

*Comment*: EPA received three comments about contingency measures in the FIP. The commenters disagree with EPA's interpretation of contingency measures for $SO_2$ to mean that the State, or EPA in the case of a FIP, has a comprehensive enforcement program. The commenters suggest that under CAA section 172(c)(9), contingency measures must take effect without further action by the State or EPA, which would exclude enforcement actions because an enforcement action is further action. Additionally, the commenters state that enforcement actions are not "measures" as defined in CAA section 110(a)(2), and that a comprehensive enforcement program is already required separately under CAA section 110(a)(2). The commenters also note that enforcement actions are not reviewable under the Administrative Procedure Act (APA), so citizens are not able to enforce EPA's proposed contingency measures, and that EPA's reliance on enforcement actions is contrary to the history of the CAA due to their discretionary nature.

Additionally, the commenters allege that authority to enforce the FIP does not equate to a comprehensive enforcement program, which the commenters suggest would mean having a

schedule for determining whether violations occurred and a binding mechanism requiring EPA to take action if they did occur. The commenters suggest that a comprehensive enforcement program could not be called aggressive unless it went beyond the basic enforcement requirements, for example, increasing the basic mandatory penalty scheme.

The commenters also point out that contingency measures are intended to address situations that cause an area to fail to attain despite a valid attainment demonstration and that there is no specific measure in the proposed FIP that would be activated in the case that EPA's analysis that the FIP will bring the Detroit area into attainment is incorrect. The commenters contend that it is more likely that violations of the 1-hour standard will occur with longer-term average limits in the FIP due to short-term spikes in emissions at sources that are still complying with their long-term average limits. The commenters state that the fact that EPA does not require a new SIP submittal for determining whether an area has attained the standard, even though modeling parameters such as source characteristics and background concentrations could have changed, is an additional issue if contingency measures do not address failures to attain despite valid attainment demonstrations.

The commenters state that EPA failed to include contingency measures in the FIP regulatory text and recommend that EPA incorporate alternative contingency measures into the FIP, such

as switching to low-sulfur fuel, limiting operation until the SIP is revised, limits that automatically scale to adjust for background concentrations, and supplementary short-term limits for longer-term average limits. The commenters state that these suggested contingency measures could be promulgated as rules to take effect without further action from EPA. The commenters disagree that the contingency measures language as written in CAA section 172(c)(9) does not apply to $SO_2$ plans and was directed at other pollutants such as ozone, as Congress added specific contingency measures language in the ozone provisions but did not change the general contingency measures provisions in CAA section 172(c)(9). The commenters argue that without implementing alternative contingency measures, EPA fails to make a good-faith effort to comply with the terms of the September 30, 2020, consent decree to promulgate a FIP that complies with the CAA.

*Response*: EPA disagrees with the commenter that the contingency measures are inadequate. Section 172(c)(9) of the CAA defines contingency measures as such measures in a nonattainment plan that are to be implemented in the event that an area fails to make RFP, or fails to attain the NAAQS, by the applicable attainment date. Contingency measures are to become effective without further action by the State or EPA, where the area has failed to (1) achieve RFP or, (2) attain the NAAQS by the statutory attainment date for the affected area. These control measures are to consist of other available control measures that

are not included in the control strategy for the attainment plan SIP for the affected area.

However, EPA has long interpreted the contingency measures requirement for $SO_2$ in light of the fact that $SO_2$ presents special considerations. *See*, General Preamble at 13547; *see also*, $SO_2$ Guideline at 6-40 – 6-41, 2014 Guidance at 41-42. EPA interprets the contingency measure provisions as primarily directed at NAAQS implementation which can be undertaken on an areawide basis, such as for ozone or particulate matter. EPA's policy for $SO_2$ is different because, first, for some of the other criteria pollutants, the analytical tools for quantifying the relationship between reductions in precursor emissions and resulting air quality improvements remain subject to significant uncertainties, in contrast with procedures for directly-emitted pollutants such as $SO_2$. Second, emissions estimates and attainment analyses for other criteria pollutants can be strongly influenced by overly optimistic assumptions about control efficiency and rates of compliance for many small sources. This is not the case for $SO_2$.

In contrast, the control efficiencies for $SO_2$ control measures are well understood and are far less prone to uncertainty. Since $SO_2$ control measures are by definition based on what is directly and quantifiably necessary to attain the $SO_2$ NAAQS, it would be unlikely for an area to implement the necessary emission controls yet fail to attain the NAAQS. Therefore, for $SO_2$ programs, EPA has long explained that

"contingency measures" can mean that the air agency has a comprehensive program to identify sources of violations of the $SO_2$ NAAQS and to undertake an aggressive follow-up for compliance and enforcement, including expedited procedures for establishing enforceable consent agreements pending the adoption of a revised SIP. EPA believes that this approach continues to be valid for the implementation of contingency measures to address the 2010 $SO_2$ NAAQS, and consequently reiterated its view in the preamble to the final 2010 NAAQS and has followed it in several actions on SIPs implementing the 2010 NAAQS. *See*, e.g., Primary National Ambient Air Quality Standard for Sulfur Dioxide; Final Rule, 75 FR 35520, 35576 (June 22, 2010); Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Attainment Plan for the Warren County, Pennsylvania Nonattainment Area for the 2010 Sulfur Dioxide Primary National Ambient Air Quality Standard; Final Rule, 83 FR 51629, 51632-33; Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Attainment Plan for the Beaver, Pennsylvania Nonattainment Area for the 2010 Sulfur Dioxide Primary National Ambient Air Quality Standard; Final Rule, 84 FR 51988, 51994-95. EPA therefore concludes that EPA's comprehensive enforcement program, as discussed below, satisfies the $SO_2$ contingency measure requirement.

The commenters listed several options for specific contingency measures. EPA acknowledges that one or more of these options may be appropriate in a specific situation, and

for a specific source, if the area fails to achieve RFP or fails to attain the NAAQS by the statutory attainment date. However, in this situation, as Detroit is a multisource area with several emission units per facility, requiring one or more of these measures also may not be appropriate depending on the cause of the potential violation, which would need to be evaluated at the time of occurrence. For example, triggering a fuel-switch at one facility may not bring the area into attainment if the issue is caused by another facility violating its limit. Similarly, limiting operation of one facility may be appropriate if EPA determines that the subject facility is the cause of the problem, but requiring additional measures at other facilities may not be warranted where the cause of the NAAQS violation was non-compliance by a different facility and where the NAAQS violation can be most efficiently remedied by bringing that source into compliance with its established emission limits. Likewise, limiting operations at all $SO_2$ facilities in the area may not appropriately address the issue due to the localized nature of $SO_2$ emissions and direct link to a specific facility. Changing the limits at all facilities from a longer-term limit to a shorter-term limit similarly may appropriately address the problem, but this action also may not, and EPA would evaluate appropriate measures if and when an issue arises. These are illustrative examples, and while not exhaustive, highlight the need for EPA to be able to respond appropriately in a particular scenario due to the localized nature of $SO_2$ impacts. In any case

where the Detroit area fails to achieve RFP or attain the NAAQS, EPA would consider all viable solutions to address the actual issue at a specific facility or facilities and take appropriate responsive action.

In accordance with longstanding policy, EPA deems investigation and enforcement authority for aggressive follow-up for ensuring source compliance an appropriate and expeditious solution to any potential violations.

As noted in the proposed rule, EPA's 2014 $SO_2$ guidance describes special features of $SO_2$ planning that influence the suitability of alternative means of addressing the requirement in CAA section 172(c)(9) for contingency measures including a comprehensive enforcement program. EPA has a comprehensive enforcement program as specified in section 113(a) of the CAA. Under this program, EPA is authorized to take enforcement actions to ensure compliance with the CAA and the rules and regulations promulgated under the CAA. Such actions include the issuance of an administrative order requiring compliance with the applicable implementation plan; the issuance of an administrative order requiring the payment of a civil penalty for past violations; and the commencement of a civil judicial action. Orders issued under CAA section 113(a) require subject entities to comply with the requirements set forth in the order as expeditiously as practicable, but in no event longer than one year after the date the order was issued. Issuance of any such order does not prohibit EPA from assessing any penalties. Under

CAA section 113(b), civil judicial enforcement may require assessment of penalties of up to $109,024 per day for each violation.[7] Additionally, under CAA section 113(c), any person who knowingly violates any requirement or prohibition of an implementation plan may be subject to criminal enforcement, with penalties including fines and imprisonment.

EPA's enforcement program is capable of prompt action to remedy compliance issues. Additionally, enforcement in communities with environmental justice concerns is a priority for EPA. EPA's steps to advance environmental justice through enforcement include increasing the number of facility inspections in overburdened communities, resolving noncompliance through remedies with tangible benefits, and increasing engagement with communities about enforcement cases that most directly impact them.[8] EPA also notes that under CAA section 304, citizens may also commence civil enforcement actions against any person who is in violation of an emission standard. *See* 42 U.S.C. 7604(a)(1), (f). Therefore, EPA believes that EPA's enforcement program by itself suffices to meet CAA section 172(c)(9) requirements for $SO_2$ as interpreted in the 1992 General Preamble, the $SO_2$ Guideline, the 2010 $SO_2$ NAAQS promulgation, the 2014 $SO_2$ guidance, and in numerous subsequent SIP actions. Finally, EPA disagrees with the assertion that without implementing alternative contingency measures, EPA fails to make

[7] Pursuant to the Civil Monetary Penalty Adjustment Rule, 87 FR 1676 (Jan. 12, 2022), codified at 40 CFR 19.4.
[8] *See* https://www.epa.gov/sites/default/files/2021-04/documents/strengtheningenforcementincommunitieswithejconcerns.pdf

a good-faith effort to comply with the terms of the September 30, 2020, consent decree to take final action to promulgate a FIP. The consent decree properly imposes only a September 30, 2022, deadline for EPA to sign a notice of final rulemaking to approve a revised SIP submission, to promulgate a FIP, or to approve in part a revised SIP submission and promulgate a partial FIP for the Detroit area addressing the elements of CAA sections 172(c) and 192, but does not (as it could not) impose any requirements for how EPA might meet the statutory elements.

*Comment*: EPA received eight comments about environmental justice. The commenters contend that while EPA recognized that communities are located in the Detroit nonattainment area with environmental justice concerns, EPA did not conduct a meaningful analysis or adequately use its discretionary authority to consider environmental justice in development of the FIP. The commenters state that EPA did not follow Executive Order 12898, which directs EPA to achieve environmental justice to the greatest extent practicable and permitted by law. The commenters contend that EPA should have considered alternatives to its proposed plan and how the FIP could provide the most benefit to Detroit populations given the history of industrial pollution and nonattainment for multiple pollutants and the environmental justice communities in the Detroit nonattainment area, which are demonstrated by EPA's EJScreen as well as other screening tools such as the draft Climate and Economic Justice Screening Tool and the Michigan EJ screen map. The commenters

also believe that EPA should consider actions that can be taken to acknowledge and address the impacts of the delay in bringing the Detroit area into attainment, and ensure that any future nonattainment is addressed promptly, as well as more fully acknowledge the burden that Detroit community members of different populations have faced due to nonattainment. One commenter points out that EPA's conclusion that the FIP will decrease pollution levels, which will be beneficial to the environmental justice populations in Detroit, does not address the fact that it will not be more beneficial to environmental justice populations than others in the area nor acknowledge the harm that previous emissions in the area have caused the community. The commenters believe that EPA only took steps to promulgate a FIP as a result of a consent decree arising from a 2021 civil action, as EPA's deadline to promulgate a FIP was April 18, 2018, so the commenters request that EPA explain the delay in promulgating a FIP.

The commenters recommend that EPA's environmental justice analysis address the presence of vulnerable populations in the nonattainment area and include an analysis of the FIP's impact on these vulnerable populations, such as individuals with asthma, particularly with respect to long-term average emission limits. The commenters note that the presence of asthma in Detroit is extremely high as compared to the rest of the state and point to studies showing that vulnerable populations may experience health effects associated with $SO_2$ concentrations

below the NAAQS. The commenters state that affected populations of the nonattainment area need assurance on plans for access to healthcare, asthma treatment, and air filtration. The commenters also request a more detailed description of aggressive enforcement measures EPA will use and recommend that EPA require all sources to install CEMS.

*Response*: While EPA appreciates the commenters' concerns and the issues facing communities in the greater Detroit area, in general EPA disagrees with the commenters' characterization of EPA's consideration of environmental justice as it regards this action. EPA is aware of the demographic data for the Detroit nonattainment area, and that the Detroit nonattainment area includes communities that are pollution-burdened and underserved. In part for this reason, EPA conducted outreach beyond its obligations of notice-and-comment rulemaking as discussed in the response to comments on EPA's outreach and comment process below.

Under section 109 of the CAA, EPA sets primary, or health-based, NAAQS for all criteria pollutants to provide requisite protection of public health, including the health of at-risk populations, with an adequate margin of safety. In EPA's June 22, 2010, rulemaking strengthening the $SO_2$ NAAQS to the level of 75 ppb, EPA provided a detailed rationale for the Administrator's determination that the 2010 $SO_2$ NAAQS would be protective of public health (75 FR 35520). This rationale included explicit consideration of protection for people,

including children, with asthma. Specifically, the standard was based on direct evidence of $SO_2$-related effects in controlled human exposure studies of exercising individuals with asthma, as well as epidemiologic evidence of associations between $SO_2$ concentrations in ambient air and respiratory-related emergency department visits and hospitalizations.

Commenters reference Executive Order 12898 (59 FR 7629, February 16, 1994), which directs Federal agencies, to the greatest extent practicable and permitted by law, to identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations. Executive Order 12898 is addressed in the executive order section of this action. With regard to environmental justice considerations, to identify environmental burdens and susceptible populations in communities in the Detroit nonattainment area, EPA performed a screening-level analysis using EPA's EJ screening and mapping tool ("EJScreen").[9] EPA prepared two EJScreen reports covering buffer areas of 1- and 6-mile diameters around U.S. Steel, which is the main facility impacted by the FIP. Our screening-level analysis of the area strongly suggests that communities within the selected buffer areas bear a high overall pollution burden as indicated by high percentile values for particulate matter and other environmental indicators, as well as high percentiles of low income and people of color. Specifically, the 6-mile buffer

[9] *See* documentation on EPA's Environmental Justice Screening and Mapping Tool at *https://www.epa.gov/ejscreen*

included in the docket of this rulemaking showed that the percentage of low-income individuals is almost twice the U.S. average. These results highlight commenters' concerns of the pollution burdens that Detroit community members of different populations have faced.

Considering these results, EPA further considered emission reductions expected from the FIP and forthcoming emission reduction measures that may help to mitigate existing pollution issues in the area. As explained in the proposal, the proposed FIP regulatory language includes new $SO_2$ emission limits throughout the U.S. Steel facility. Additionally, the FIP includes several new requirements for U.S. Steel's Boilerhouse 2, including the requirement to combine and raise its stacks to increase dispersion away from the area, new limits, and installation of a new CEMS. Further, EPA included the DTE Trenton Channel permit as part of the FIP analysis, which was scheduled to retire[10,11] at the time the proposed FIP was published and has since shut down as of June 19, 2022. Hence, the FIP analysis included the permitted (Permit to Install 125-11C) enforceable $SO_2$ limit of 5,907 lbs/hr on a 30-day average basis applicable to DTE Trenton Channel as a precautionary measure. Actual emissions at DTE Trenton Channel in recent years were 3,114, 3,754, and 885 tons per year (tpy) in 2018, 2019 and 2020, respectively. In Wayne County (the partial

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[10] *See https://earthjustice.org/news/press/2022/coal-plants-retiring-with-millions-of-dollars-flowing-to-environmental-justice-communities*

[11] *See https://earthjustice.org/sites/default/files/files/267-1_-_sierra_club_-_dte_separate_agreement.pdf*

county containing in the Detroit $SO_2$ Nonattainment area), these reductions would account for 25.2, 31.9 and 14.8 percent of $SO_2$ emissions in 2018, 2019 and 2020, respectively. While EPA recognizes the importance of assessing impacts of our actions on potentially overburdened communities, we believe that the promulgation of the FIP will not adversely affect disproportionally impacted populations in the Detroit nonattainment area. The purpose of the FIP is to ensure attainment and maintenance of the NAAQS, so promulgation of this FIP is expected to have a positive impact on the Detroit nonattainment area as a whole, for all populations in the Detroit nonattainment area.

With regard to the delay in bringing the area into attainment, Michigan and EPA have faced several obstacles during the attainment planning process, beginning with the invalidation of Michigan Administrative Code (MAC) 336.1430 ("Rule 430") by the Michigan Court of Claims on October 4, 2017. The court held that, because Rule 430 contained enforceable limits for U.S. Steel and the limits applied to a single facility, Rule 430 failed the "general applicability" requirement of Michigan's Administrative Procedures Act, Michigan Compiled Laws (MCL) 24.201 et seq. The court expressly declined to advise how the State could properly impose emission limits on the source at issue via other means but noted elsewhere in the decision that the state and other sources "agreed to revise pertinent DEQ permits." Since the time of the designation, Michigan and EPA

have been working on an approvable attainment plan and emission reductions in the area. In addition, to the extent that the State prefers to proceed via generally applicable state regulations rather than permits, EPA expects that Michigan will draft future rules to avoid the concerns raised by the court which resulted in invalid $SO_2$ limits to avoid this issue going forward.

In 2016, Michigan submitted an $SO_2$ attainment plan for the Detroit nonattainment area, which included limits for DTE Trenton Channel, DTE River Rouge, Carmeuse Lime, and U.S. Steel. While EPA was unable to approve the 2016 attainment plan as a whole, EPA did approve the limits for DTE Trenton Channel and Carmeuse Lime into Michigan's SIP on March 19, 2021. The compliance dates for DTE Trenton Channel and Carmeuse Lime permits were January 1, 2017, and October 1, 2018, respectively, and both facilities have been in compliance since their respective dates. In March 2020, a more stringent interim limit for DTE River Rouge became effective, and in May 2021 the facility shut down.

Although the FIP is based on maximum allowable or uncontrolled emissions, EPA also completed a model run using actual emissions from 2015-2017, which was used in EPA's January 28, 2022, action to determine whether the area attained the standard by the attainment date (87 FR 4501). The modeling was based on guidelines from appendix W of 40 CFR part 51 and EPA's TAD that contained an assessment of the air quality impacts from

the following sources: U.S. Steel Ecorse, U.S. Steel Zug Island, EES Coke, DTE River Rouge, DTE Trenton Channel, Carmeuse Lime, DTE Monroe, Cleveland-Cliffs Steel Corporation, DIG, and Marathon Refinery. The modeling demonstration included actual emissions for DTE River Rouge, Trenton Channel, and U.S. Steel, the source that was determined to have the most significant contribution to the maximum NAAQS violations in the area. EPA found that the areas with modeled $SO_2$ concentrations above the NAAQS were on and surrounding Zug Island in areas that are not residential, while all the monitors in the Detroit nonattainment area showed values below the NAAQS. The updated FIP analysis modeled attainment of the NAAQS in the Detroit nonattainment area after inclusion of the new U.S. Steel emission limits proposed in this FIP and the emission reduction measures that have already occurred since the finding of failure to attain, including the previously approved DTE Trenton Channel and Carmeuse Lime emission limits and the shutdown of DTE River Rouge. The implementation of the FIP makes these reductions, as well as the existing emission limits at EES Coke, Cleveland-Cliffs Steel Corporation, and DIG, permanent and enforceable and provides protection for future attainment. Further, as previously discussed, these reductions will be even greater with the shutdown of DTE Trenton Channel.

With regard to the enforcement measures that EPA will use, as stated in the proposed rule, options include the issuance of an administrative order requiring compliance with the applicable

implementation plan; the issuance of an administrative order requiring the payment of a civil penalty for past violations; and the commencement of a civil judicial action. These options are explained further in the response to the comment above regarding contingency measures. While the FIP does not require CEMS on all units, as explained in the response to comments about CEMS above, EPA is confident that the FIP provides adequate means of determining whether a violation has occurred in order to take appropriate enforcement action.

*Comment*: EPA received four comments on EPA's outreach and comment process. The commenters contend that the timeline between the proposed rule publication date and the public hearing and public hearing registration deadline was not sufficient and should have been closer to 30 or 45 days, similar to other EPA comment periods. The commenters state that while EPA is facing a tight deadline to finalize the FIP, the tight timeline is due, in part, to EPA's delay in responding to Michigan's SIP.

The commenters also state that while EPA held a meeting with various Detroit environmental organizations and community groups in March 2022, the FIP was not the main focus of the meeting and a more robust approach to community outreach was needed, particularly due to the high levels of limited English proficiency (LEP) persons living in the area. The commenters give examples of ways that EPA could have improved its public outreach, including holding a community meeting before the

proposed FIP was published, working with community groups in the area to distribute information, and providing handouts about the FIP surrounding the public hearing. One commenter believes that EPA should engage with the public as soon as new NAAQS are set and EPA knows which areas area likely to fall into nonattainment about the causes and impacts of the nonattainment designation and solutions being sought, as well as after each delay to explain why the delay occurred and how it will be avoided in the future.

Additionally, the commenters state that EPA only provided notice of the hearing in the proposed rule published in the *Federal Register* and did not provide notice that was sufficiently accessible on widely disseminated platforms or reach out directly to the community. In particular, the commenters note that the proposed rule was published in English with no translation services available and that translation services were not made available for the public hearing, which is of particular concern due to the Spanish and Arabic speaking communities in and surrounding the nonattainment area. The commenters note that while EPA did solicit requests for translation services in the proposed rule, this solicitation did not give LEP persons meaningful access to translation services as it was published in an English-only document with a tight deadline for submitting requests. Therefore, the commenters suggest that EPA should have proactively provided Arabic and Spanish translation services at the public hearing.

The commenters contend that EPA did not meet its obligations under Executive Order 13166 and EPA's FY 2022-2026 Strategic Plan and has subjected individuals to discrimination by failing to proactively reach out to LEP persons in and around the nonattainment area due to the high percentages of LEP persons in the area, as shown in EJScreen analyses completed by both commenters and EPA. Additionally, the commenters mention the Informal Resolution Agreement that EPA entered with Michigan, under which Michigan developed an LEP Plan. The commenters believe that EPA should have followed the guidelines set forward in this plan, which include providing solicitations for translation services in other languages besides English and developing a strategy to best engage with LEP individuals. The commenters note that while EPA has since translated a fact sheet into Arabic and Spanish, these fact sheets were not available at the beginning of the comment period and EPA did not release a plan on how to ensure the documents would reach LEP persons.

*Response*: EPA appreciates the commenters' suggestions on how EPA can improve its outreach and comment process and will consider, as appropriate, in future actions the suggestions to extend the time between proposal publication and public hearing, engage earlier with the public, and reach out to LEP communities before the comment period. However, EPA would like to highlight the additional outreach efforts that EPA made surrounding the FIP proposal publication beyond its obligations of notice-and-comment rulemaking.

As the commenters note, EPA held a meeting with representatives from the City of Detroit, Michigan Environmental Council, Great Lakes Environmental Law Center (GLELC), Southwest Detroit Environmental Vision, and the Ecology Center regarding the FIP, including a presentation by EPA and a roundtable discussion with these stakeholders. EPA disagrees that the FIP was not the main topic of the meeting and has posted the presentation and attendance list to the docket for this action. Specifically, after outlining a summary of the FIP proposal, EPA requested feedback on structuring future engagement with stakeholders in Detroit.

In addition to communicating directly with stakeholders, EPA issued a press release on the day the proposed FIP was published in the *Federal Register*.[12] The press release noted that EPA would be accepting public comments on the proposed FIP. EPA also created a website for the FIP containing a summary of the rule, as well as information about how to register for the public hearing or submit written comments. The FIP was also highlighted on EPA's Region 5 webpage.

With regard to translation services for the public hearing, EPA solicited requests in both the *Federal Register* document as well as on the registration webpage for the public hearing. EPA proactively arranged for interpretation services to be available at the public hearing in case the services were requested by registered attendees; however, no registered attendees requested

[12] *https://www.epa.gov/newsreleases/epa-opens-public-comment-period-proposed-federal-plan-reduce-sulfur-dioxide-air*

these services or any other translation services.

During the public comment period, EPA received a request from GLELC to delay the public hearing, as GLELC stated that EPA had not provided adequate outreach to LEP communities. Per the email exchange posted in the docket for this action, EPA was unable to delay the public hearing, but did what was possible during the comment period to address this request. As the commenters note, EPA created a fact sheet, which included information about how to submit written comments, during the comment period and translated it into Spanish and Arabic. EPA posted the fact sheets in the docket for this action, on the FIP webpage, and on the general Spanish and Arabic EPA webpages. EPA appreciates the suggestions on how to reach out to LEP communities more proactively for future rulemakings.

*Comment*: Two commenters argue that EPA should develop maps and other analyses that represent $SO_2$ exposure within and outside of the nonattainment area in conjunction with maps illustrating cumulative impacts of social, economic, and physical environmental factors to show how $SO_2$ concentrations add to cumulative pollution impacts and to evaluate environmental justice concerns.

*Response*: The focus of this action is to ensure attainment of the $SO_2$ NAAQS within the nonattainment area. EPA has no information suggesting that $SO_2$ concentrations outside of the nonattainment area boundary are above the $SO_2$ NAAQS, and EPA does not believe that exposure maps within and beyond the

nonattainment are pertinent to demonstrating how the control measures and emissions limits in the FIP provide for attainment of the $SO_2$ NAAQS in the Detroit area.

*Comment*: The FIP includes two separate limits for U.S. Steel Boilerhouse 2 based on two different operating scenarios. Two commenters note that the FIP incorrectly states that Boilerhouse 2 is the only U.S. Steel unit operating under the scenario in which Boilerhouse 2 has a limit of 750.00 lbs/hr. The commenters point out that the modeling analysis for this scenario includes operation of the U.S. Steel Ecorse sources, which include the Hot Strip Mill, No. 2 Baghouse, Main Plant Boiler No. 8, and Main Plant Boiler No. 9, in addition to Boilerhouse 2.

*Response*: EPA notes that the U.S. Steel Ecorse sources were included in the modeling analysis for the scenario in which Boilerhouse 2 has a limit of 750 lbs/hr and were incorrectly excluded from the scenario in the proposed rule. EPA has updated 40 CFR 52.1189(b)(1)(ii) accordingly. The limits for the U.S. Steel Ecorse sources are shown in Table 1 below.

**Table 1 – U.S. Steel Ecorse Limits**

| Unit | $SO_2$ Emission Limit (lbs/hr) |
|---|---|
| Hot Strip Mill – Slab Reheat Furnace 1 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 2 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 3 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 4 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 5 | 0.31 |
| No. 2 Baghouse | 3.30 |
| Main Plant Boiler No. 8 | 0.07 |
| Main Plant Boiler No. 9 | 0.07 |

*Comment*: The proposed FIP includes a requirement for the owner or operator of the U.S. Steel facility to combine and raise all five stacks from each corresponding boiler at U.S. Steel Boilerhouse 2 into a single larger stack. Two commenters state that all five Boilerhouse 2 boilers are not currently in operation. The commenters request that only stacks from the operating boilers be required to be included in the combined stack in order to reduce capital, operating, and maintenance costs. The commenters assert that if a boiler begins operation at a later date, it can be included in the stack at that time.

*Response*: EPA agrees that not requiring any idled boiler stacks to be added to the combined Boilerhouse 2 stack, so long as no $SO_2$ is emitted from Boilerhouse 2 except from the new stack after the new stack construction is required to be completed, would not affect attainment of the NAAQS in the Detroit area. Therefore, EPA is not explicitly requiring that all Boilerhouse 2 boilers be added to the combined stack, and EPA has updated 40 CFR 52.1189(b)(2)(i) accordingly. As set forth in 40 CFR 52.1189(b)(2)(ii), beginning two years after the effective date of the FIP, no owner or operator shall emit $SO_2$ from Boilerhouse 2, except from the stack point at least 170 feet above ground level.

*Comment*: EPA received two comments about the U.S. Steel Boilerhouse 2 stack construction timeline. The commenters contend that the two years allotted for construction of the stack is not sufficient, as construction cannot begin until

Michigan issues the construction permit. The commenters state that at least 15 months are needed to procure materials and complete stack construction, which would leave 9 months for Michigan to issue the permit. The commenters allege that the timeline is aggressive, given that the completion is dependent on Michigan acting quickly to issue the permit.

*Response*: EPA disagrees that the U.S. Steel Boilerhouse 2 stack construction timeline is insufficient. The construction permit process was considered as part of this timeline. Michigan is aware of the construction timeline, and the construction permit for the Boilerhouse 2 stack construction is a high priority for the State. Additionally, Michigan is statutorily required to process permit applications within 240 days if public comment is required and 180 days if public comment is not required.[13] This comment did not provide any new information on the project timeline, so therefore, EPA is not extending the timeline for the Boilerhouse 2 stack construction.

*Comment*: The commenter states that the community would like to know if they will be notified if facilities reopen, how they would be affected if facilities have ownership changes, what kind of assurance there is that Michigan will not permit new sources in the area, and EPA's future commitment to the Detroit area.

*Response*: The focus of this action is to ensure attainment of the $SO_2$ NAAQS in the Detroit area. The requirements of the FIP

[13] *See* correspondence between EPA and Michigan included in the docket for this action.

will continue to apply regardless of any facility ownership change. If there are changes to the Michigan SIP, which includes the emission limits and requirements set forth in the FIP, those changes will be subject to public notice and comment.

*Comment*: The commenter requests that EPA explain how it will guarantee that the FIP will attain and maintain the $SO_2$ NAAQS in light of the June 30, 2022, *West Virginia v. EPA* Supreme Court ruling regarding EPA's ability to regulate carbon emissions.

*Response*: The attainment planning requirements that the FIP addresses are set forth in the CAA, and the June 30, 2022, Supreme Court ruling does not affect this action. This action regulates $SO_2$ emissions, which the CAA explicitly requires, and does not regulate carbon emissions as such or impose limits on greenhouse gas emissions.

*Comment*: The commenter states that industry should be held accountable for the pollution that it emits, and that industry and government do not provide sufficiently transparent air quality data.

*Response*: This nonattainment plan provides emission limits and requirements for facilities in the Detroit area and is protective of the $SO_2$ NAAQS. A variety of air quality data sources are available for the Detroit area, including but not limited to design value reports,[14] ECHO,[15] and AirNow.[16]

*Comment*: The commenter requests that EPA minimize the cost and

[14] *See https://www.epa.gov/air-trends/air-quality-design-values#:~:text=A%20design%20value%20is%20a,50Exit%20Exit%20EPA%20website.*
[15] *See https://echo.epa.gov/resources/echo-data/about-the-data*
[16] *See https://gispub.epa.gov/airnow*

time required to implement the FIP, as the commenter states that a facility that is not economically viable is less likely to comply with limits.

*Response*: The FIP includes limits and associated requirements needed to meet the NAAQS in the Detroit area. Compliance with the requirements of the FIP is not optional and is not dependent on a facility's economic viability. As discussed further above in the response to comments regarding continency measures, EPA has a comprehensive enforcement program as specified in section 113 of the CAA. Under this program, EPA is authorized to take any action it deems necessary or proper for the effective enforcement of the CAA and the rules and regulations promulgated under the CAA, including the requirements set forth in the FIP.

*Comment*: The commenter states that alleged deficiencies in the model cannot be addressed by assuming DTE Trenton Channel will be shut down, as there are several model receptors with concentrations that exceed 70 ppb.

*Response*: EPA's FIP modeling analysis does not assume the shutdown of DTE Trenton Channel. Instead, the FIP analysis includes the permitted (Permit to Install 125-11C) enforceable $SO_2$ limit of 5,907 lbs/hr on a 30-day average basis as a precautionary measure. As described above, particularly in the response to comments regarding background concentrations and dispersion coefficients, EPA concludes that its modeling analysis sufficiently demonstrates attainment of the $SO_2$ NAAQS of 75 ppb, even assuming continued operation of DTE Trenton Channel

(which will not in fact operate).

*Comment*: The commenter points out that the emission rate used for DTE Trenton Channel in the model is higher than the emission rate specified in the proposed FIP (7,834 lbs/hr versus 7,661 lbs/hr).

*Response*: EPA notes the discrepancy between the DTE Trenton Channel emission rates in the proposed FIP and in the model. As no other changes were made to the model, EPA did not remodel based on this error alone, since the error resulted in a more conservative design value. EPA believes that this discrepancy has minimal impact on the maximum modeled concentration, and as it results in an overestimate, it does not have any negative impact on human health.

## III. What Action is EPA Taking?

EPA is promulgating a FIP for attaining the 2010 $SO_2$ NAAQS for the Detroit area and for meeting other nonattainment area planning requirements. In accordance with section 172 of the CAA, this FIP includes an attainment demonstration for the Detroit area and addresses requirements for RFP, RACT/RACM, enforceable emission limitations and control measures, and contingency measures. EPA has previously concluded that Michigan has addressed the requirements for emissions inventories for the Detroit area and nonattainment area NSR.

The FIP is based on the Carmeuse Lime emission limits specified in Permit to Install 193-14A, the DTE Trenton Channel emission limits specified in Permit to Install 125-11C, and the

U.S. Steel, EES Coke, Cleveland-Cliffs Steel Corporation, and DIG emission limits specified in the regulatory language of this FIP. The Carmeuse Lime and DTE Trenton Channel permits have already been approved into Michigan's SIP that is incorporated into 40 CFR part 52, so EPA is not re-incorporating them into 40 CFR part 52 here.

EPA made changes to the regulatory text that was included in the proposed FIP under 40 CFR 52.1189 paragraphs (b)(1)(ii), (b)(2)(i), (b)(3)(ii), and (e)(2) due to public comments received. These changes include updating the list of sources that may operate under the scenario in which U.S. Steel Boilerhouse 2 has a limit of 750.00 lbs/hr to include U.S. Steel Ecorse sources, as included in EPA's modeling analysis; not explicitly requiring all Boilerhouse 2 boiler stacks to be merged and raised, so long as no $SO_2$ is emitted except from the new stack beginning two years after the effective date of the FIP; adding U.S. Steel No. 2 Baghouse to the list of units subject to monitoring requirements, which previously was incorrectly omitted; and adding language regarding compliance for DIG Flares 1 and 2. Additionally, EPA corrected a citation error in the proposed regulatory text under CFR 52.1189(b)(3)(iii).

This FIP satisfies EPA's duty to promulgate a FIP for the area under CAA section 110(c) that resulted from the previous finding of failure to submit. However, it does not affect the sanctions clock started under CAA section 179 resulting from

EPA's partial disapproval of the prior SIP, which would be terminated by an EPA rulemaking approving a revised SIP. *See* 40 CFR 52.31.

## IV. Statutory and Executive Order Reviews

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

This action is exempt from review by the Office of Management and Budget (OMB), as it is not a rule of general applicability. This action specifically regulates four facilities in Detroit, Michigan.

*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*. 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 four facilities, the Paperwork Reduction Act does not apply. *See* 5 CFR 1320(c).

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information,

processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid Office of Management and Budget (OMB) control number. The OMB control numbers for our regulations in 40 CFR are listed in 40 CFR part 9.

*C. Regulatory Flexibility Act*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This action adds additional controls to certain sources. None of these sources are owned by small entities, and therefore are not small entities.

*D. Unfunded Mandates Reform Act (UMRA)*

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local or tribal governments or the private sector.

*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.

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

This action does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments. Thus, Executive Order 13175 does not apply to this action.

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

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. To the extent this action will limit $SO_2$ 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*

This rulemaking does not involve technical standards.

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

EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994).

This final rule will improve local air quality by reducing $SO_2$ emissions in a part of the Detroit metropolitan area that includes a higher proportion of minority and low-income populations compared to the State or US averages. Socioeconomic indicators such as low income, unemployment rate and percentage of people of color[17] were all at levels at least two times that of the state-wide averages (in some cases two to five times higher), within one to six miles from facilities affected by this action (*see* EJScreen analyses provided in the docket for this action). These populations, as well as all affected populations in this area, will stand to benefit from the increased level of environmental protection with the implementation of this rule.

*K. 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 promulgates a FIP under CAA section 110(c).

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[17] See *https://www.epa.gov/ejscreen/overview-demographic-indicators-ejscreen* for the definition of each demographic indicator.

*L. Congressional Review Act (CRA)*

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

*M. 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, does not 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, Reporting and recordkeeping requirements, Sulfur oxides.

**Michael Regan,**
*Administrator.*

For the reasons stated in the preamble, 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.*

2. Add § 52.1189 to subpart X to read as follows:

**§ 52.1189 Control strategy: Sulfur dioxide ($SO_2$).**

(a) The plan submitted by the State on May 31, 2016 to attain the 2010 1-hour primary sulfur dioxide ($SO_2$) national ambient air quality standard for the Detroit $SO_2$ nonattainment area does not meet the requirements of Clean Air Act (CAA) section 172 with respect to $SO_2$ emissions from the U.S. Steel (Ecorse and Zug Island), EES Coke, Cleveland-Cliffs Steel Corporation (formerly AK or Severstal Steel), and Dearborn Industrial Generation (DIG) facilities in the Detroit, Michigan area. These requirements for these four facilities are satisfied by paragraphs (b)through(e) of this section, respectively.

(b) This section addresses and satisfies CAA section 172 requirements for the Detroit $SO_2$ nonattainment area by specifying the necessary emission limits and other control measures applicable to the U.S. Steel Ecorse and Zug Island facilities. This section applies to the owner(s) and operator(s) of the facilities located at 1 Quality Drive and 1300 Zug Island Road in Detroit, Michigan. The requirements in this section for the

Hot Strip Mill Slab Reheat Furnaces 1-5, No. 2 Baghouse, Main Plant Boiler No. 8, and Main Plant Boiler No. 9 apply to the owner and operator of the U.S. Steel Ecorse facility, and the requirements in this section for Boilerhouse 1, Boilerhouse 2, A1 Blast Furnace, B2 Blast Furnace, D4 Blast Furnace, A/B Blast Furnace Flares, and D Furnace Flare apply to the owner and operator of the U.S. Steel Zug Island facility.

(1) *$SO_2$ emission limits.* (i) Beginning on the effective date of the FIP, no owner or operator shall emit $SO_2$ from the following units in excess of the following limits:

**Table 1 to Paragraph (b)(1)(i)**

| Unit | $SO_2$ Emission Limit (lbs/hr) |
|---|---|
| Boilerhouse 1 (all stacks combined) | 55.00 |
| Hot Strip Mill – Slab Reheat Furnace 1 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 2 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 3 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 4 | 0.31 |
| Hot Strip Mill – Slab Reheat Furnace 5 | 0.31 |
| No. 2 Baghouse | 3.30 |
| Main Plant Boiler No. 8 | 0.07 |
| Main Plant Boiler No. 9 | 0.07 |
| A1 Blast Furnace | 0.00 |
| B2 Blast Furnace | 40.18 |
| D4 Blast Furnace | 40.18 |
| A/B Blast Furnace Flares | 60.19 |
| D Furnace Flare | 60.19 |

(ii) Beginning two years after the effective date of the FIP, no owner or operator shall emit $SO_2$ from Boilerhouse 2 in excess of the following limits:

(A) Boilerhouse 2 shall emit less than 750.00 lbs/hr unless Boilerhouse 1, A1 Blast Furnace, B2 Blast Furnace, D4 Blast Furnace, A/B Blast Furnace Flares, or D Furnace Flare is

operating, in which case it shall emit less than 81.00 lbs/hr.

(B) [Reserved]

(2) *Stack restrictions and permit requirements.* (i) The owner or operator shall construct a stack for Boilerhouse 2. The stack emission point must be at least 170 feet above ground level. The owner or operator shall submit a construction permit application for the stack to the State of Michigan within 90 days of the effective date of the FIP. Where any compliance obligation under this section requires any other state or local permits or approvals, the owner or operator shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

(ii) Beginning two years after the effective date of the FIP, no owner or operator shall emit $SO_2$ from Boilerhouse 2, except from the stack emission point at least 170 feet above ground level.

(3) *Monitoring requirements*. (i) Not later than two years after the effective date of the FIP, the owner or operator shall install and continuously operate an $SO_2$ continuous emission monitoring system (CEMS) to measure $SO_2$ emissions from Boilerhouse 2 in conformance with 40 CFR part 60, appendix F procedure 1.

(ii) The owner or operator shall determine $SO_2$ emissions from Boilerhouse 1, Hot Strip Mill Slab Reheat Furnaces 1-5, No. 2 Baghouse, Main Plant Boiler No. 8, Main Plan Boiler No. 9, A1 Blast Furnace, B2 Blast Furnace, D4 Blast Furnace, A/B Blast

Furnace Flares, and D Furnace Flare using mass balance calculations as described in paragraph (b)(4) of this section.

(iii) Within 180 days of the installation of the CEMS specified in paragraph (b)(3)(i) of this section, the owner or operator shall perform an initial compliance test for $SO_2$ emissions from Boilerhouse 2 while the boilerhouse is operating in accordance with the applicable emission limit during the period of testing identified in paragraph (b)(1)(ii) of this section. The initial compliance test shall be performed using EPA Test Method 6 at 40 CFR part 60, appendix A-4.

(4) *Compliance assurance plan.* To determine compliance with the limits in paragraph (b)(1)(i) of this section, the owner or operator shall calculate hourly $SO_2$ emissions using all raw material sulfur charged into each affected emission unit and assume 100 percent conversion of total sulfur to $SO_2$. The owner or operator shall implement a compliance assurance plan (CAP) for all units except Boilerhouse 2 and any idled units that shall specify the calculation methodology, procedures, and inputs used in these calculations and submit the plan to EPA within 30 days after the effective date of the FIP. The owner or operator must submit a list of idled units to EPA within 30 days of the effective date of the FIP. The owner or operator must submit a CAP for any idled units prior to resuming operations.

(5) *Recordkeeping.* The owner/operator shall maintain the following records continuously for five years beginning on the

effective date of the FIP:

(i) All records of production for each affected emission unit.

(ii) All records of hourly emissions calculated in accordance with the CAP.

(iii) In accordance with paragraphs (b)(3) of this section, all CEMS data, including the date, place, and time of sampling or measurement; parameters sampled or measured; and results.

(iv) Records of quality assurance and quality control activities for emission monitoring systems including, but not limited to, any records required by 40 CFR part 60, appendix F Procedure 1.

(v) Records of all major maintenance activities performed on emission units, air pollution control equipment, CEMS, and other production measurement devices.

(vi) Any other records required by the Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used for Compliance Determination rule at 40 CFR part 60, appendix F Procedure 1 or the National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities rule at 40 CFR part 63, subpart FFFFF.

(6) *Reporting.* Beginning on the effective date of the FIP, all reports under this section shall be submitted quarterly to Compliance Tracker, Air Enforcement and Compliance Assurance Branch, U.S. Environmental Protection Agency, Region 5, Mail

Code AE-17J, 77 W. Jackson Blvd., Chicago, IL 60604-3590.

(i) The owner or operator shall submit a CAP in accordance with paragraph (b)(4) of this section within 30 days of the effective date of the FIP.

(ii) The owner or operator shall report CEMS data and hourly mass balance calculations quarterly in accordance with CEMS requirements in paragraph (b)(3) of this section and the CAP requirements set forth in paragraph (b)(4) of this section no later than the 30th day following the end of each calendar quarter.

(iii) The owner or operator shall report the results of the initial compliance test for the Boilerhouse 2 stack within 60 days of conducting the test.

(iv) The owner or operator shall submit quarterly excess emissions reports for all units identified in paragraphs (b)(1)(i) and (ii) of this section no later than the 30th day following the end of each calendar quarter. Excess emissions means emissions that exceed the emission limits specified in paragraph (b)(1) of this section. The reports shall include the magnitude, date(s), and duration of each period of excess emissions, specific identification of each period of excess emissions that occurs during all periods of operation including startups, shutdowns, and malfunctions of the unit, the nature and cause of any malfunction (if known), and the corrective action taken, or preventative measures adopted.

(v) The owner or operator of each unit shall submit

quarterly CEMS performance reports, to include dates and duration of each period during which the CEMS was inoperative (except for zero and span adjustments and calibration checks), reason(s) why the CEMS was inoperative and steps taken to prevent recurrence, and any CEMS repairs or adjustments no later than the 30th day following the end of each calendar quarter.

(vi) The owner or operator shall also submit results of any CEMS performance tests required by 40 CFR part 60, appendix F, Procedure 1 (*e.g.*, Relative Accuracy Test Audits, Relative Accuracy Audits, and Cylinder Gas Audits) no later than 30 days after the test is performed.

(vii) When no excess emissions have occurred or the CEMS has not been inoperative, repaired, or adjusted during the reporting period, such information shall be stated in the quarterly reports required by paragraphs (b)(6) of this section.

(c) This section addresses and satisfies CAA section 172 requirements for the Detroit $SO_2$ nonattainment area by specifying the necessary emission limits and other control measures applicable to the EES Coke facility. This section applies to the owner and operator of the facility located at 1400 Zug Island Road in Detroit, Michigan.

(1) *$SO_2$ emission limits.* Beginning on the effective date of the FIP, no owner or operator shall emit $SO_2$ from the Underfire Combustion Stack EUCoke-Battery in excess of 544.6 lbs/hr, as a 3-hour average, and 2071 tons per year, on a 12-

month rolling basis as determined at the end of each calendar month, and 0.702 pounds per 1000 standard cubic feet of coke oven gas, as a 1-hour average.

(2) *Monitoring requirements.* The owner or operator shall maintain and operate in a satisfactory manner a device to monitor and record the $SO_2$ emissions from the Underfire Combustion Stack EUCoke-Battery on a continuous basis. The owner or operator shall use Continuous Emission Rate Monitoring (CERM) data for determining compliance with the hourly limit in paragraph (c)(1) of this section. The owner or operator shall operate the CERM system in conformance with 40 CFR part 60, appendix F.

(d) This section addresses and satisfies CAA section 172 requirements for the Detroit $SO_2$ nonattainment area by specifying the necessary emission limits and other control measures applicable to the Cleveland-Cliffs Steel Corporation (formerly AK or Severstal Steel) facility. This section applies to the owner and operator of the facility located at 4001 Miller Road in Dearborn, Michigan.

(1) *$SO_2$ emission limits.* Beginning on the effective date of the FIP, no owner or operator shall emit $SO_2$ from the following units in excess of the following limits:

**Table 2 to Paragraph (d)(1)**

| Unit | $SO_2$ Emission Limit | Time Period/Operating Scenario |
|---|---|---|
| "B" Blast Furnace Baghouse Stack | 71.9 lbs/hr | Calendar day average |
| "B" Blast Furnace Stove Stack | 38.75 lbs/hr | Calendar day |

| | | |
|---|---|---|
| | | average |
| "B" Blast Furnace Baghouse and Stove Stacks (combined) | 77.8 lbs/hr | Calendar day average |
| "B" Blast Furnace Baghouse and Stove Stacks (combined) | 340 tons per year | 12-month rolling time period as determined at the end of each calendar month |
| "C" Blast Furnace Baghouse Stack | 179.65 lbs/hr | Calendar day average |
| "C" Blast Furnace Stove Stack | 193.6 lbs/hr | Calendar day average |
| "C" Blast Furnace Baghouse and Stove Stacks (combined) | 271.4 lbs/hr | Calendar day average |
| "C" Blast Furnace Baghouse and Stove Stacks (combined) | 1188 tons per year | 12-month rolling time period as determined at the end of each calendar month |

(2) *Monitoring requirements.* The owner or operator shall maintain and operate in a satisfactory manner a device to monitor and record the $SO_2$ emissions and flow from "B" Blast Furnace and "C" Blast Furnace Baghouse and Stove Stacks on a continuous basis. The owner or operator shall use CERM data for determining compliance with the hourly limits in paragraph (d)(1) of this section. The owner or operator shall operate the CERM system in conformance with 40 CFR part 60, appendix F.

(e) This section addresses and satisfies CAA section 172 requirements for the Detroit $SO_2$ nonattainment area by specifying the necessary emission limits and other control measures applicable to the Dearborn Industrial Generation (DIG) facility. This section applies to the owner and operator of the facility located at 2400 Miller Road in Dearborn, Michigan.

(1) *$SO_2$ emission limits.* (i) Beginning on the effective date of the FIP, no owner or operator shall emit $SO_2$ from the

following units in excess of the following limits:

**Table 3 to Paragraph (e)(1)(i)**

| Unit | $SO_2$ Emission Limit | Time Period/Operating Scenario |
|---|---|---|
| Boilers 1, 2, and 3 (combined) | 420 lbs/hr | Daily average |
| Boilers 1, 2, and 3 (combined) | 1839.6 tons per year | 12-month rolling time period |
| Boilers 1, 2, and 3 and Flares 1 and 2 (combined) | 840 lbs/hr | Daily average |
| Boilers 1, 2, and 3 and Flares 1 and 2 (combined) | 2947.7 tons per year | 12-month rolling time period as determined at the end of each calendar month |

(ii) [Reserved]

(2) *Monitoring requirements.* (i) The owner or operator shall maintain and operate in a satisfactory manner a device to monitor and record the $SO_2$ emissions from Boilers 1, 2, and 3 on a continuous basis. Installation and operation of each CEMS shall meet the timelines, requirements and reporting detailed in 40 CFR part 60, appendix F. If the owner or operator chooses to use a Predictive Emissions Monitoring System (PEMS) in lieu of a CEMS to monitor $SO_2$ emissions, the permittee shall follow the protocol delineated in Performance Specification 16 in appendix B of 40 CFR part 60.

(ii) The owner or operator shall verify compliance with the emission limits for Boilers 1, 2 and 3 and Flares 1 and 2 (combined) by following the procedures and methodologies contained in the document entitled "Protocol for Demonstrating Continuous Compliance with the Emission Limitations of ROP MI-ROP-N6631-2004" dated May 31, 2011, or subsequent revisions to

this document approved by EPA.

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