ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R08–OAR–2006–0098; FRL–8551–2]

RIN 2008–AA01

Federal Implementation Plan for the Billings/Laurel, MT, Sulfur Dioxide Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is promulgating a Federal Implementation Plan (FIP) containing emission limits and compliance determining methods for several sources located in Billings and Laurel, Montana. EPA is promulgating a FIP because of our previous partial and limited disapprovals of the Billings/Laurel Sulfur Dioxide (SO_2) State Implementation Plan (SIP). The intended effect of this action is to assure attainment of the SO_2 National Ambient Air Quality Standards (NAAQS) in the Billings/Laurel, Montana area. EPA is taking this action under sections 110, 301, and 307 of the Clean Air Act (Act).

DATES: *Effective Date:* This final rule is effective May 21, 2008. The incorporation by reference of certain publications listed in this regulation is approved by the Director of the Federal Register as of May 21, 2008.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–R08–OAR–2006–0098. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the Air and Radiation Program, Environmental Protection Agency (EPA), Region 8, 1595 Wynkoop Street, Denver, Colorado 80202–1129. EPA requests that if at all possible, you contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section to view the hard copy of the docket. You may view the hard copy of the docket Monday through Friday, 8 a.m. to 4 p.m., excluding Federal holidays.

FOR FURTHER INFORMATION CONTACT: Laurie Ostrand, Air and Radiation Program, Environmental Protection Agency (EPA), Region 8, 1595 Wynkoop Street, Denver, Colorado 80202–1129, (303) 312–6437, *ostrand.laurie@epa.gov*.

SUPPLEMENTARY INFORMATION:

Table of Contents

Definitions

Definitions

For the purpose of this document, we are giving meaning to certain words or initials as follows:

(i) The words or initials *Act* or *CAA* mean or refer to the Clean Air Act, unless the context indicates otherwise.

(ii) The initials *API* mean or refer to the American Petroleum Institute.

(iii) The initials *BAAQMD* mean or refer to the Bay Area Air Quality Management District.

(iv) The initials *CEMS* mean or refer to continuous emission monitoring system.

(v) The initials *CO* mean or refer to carbon monoxide.

(vi) The initials *COPC* mean or refer to ConocoPhillips.

(vii) The words *EPA, we, us* or *our* mean or refer to the United States Environmental Protection Agency.

(viii) The initials *FIP* mean or refer to Federal Implementation Plan.

(ix) The initials H_2S mean or refer to hydrogen sulfide.

(x) The initials *MBER* mean or refer to the Montana Board of Environmental Review.

(xi) The initials *MDEQ* mean or refer to the Montana Department of Environmental Quality.

(xii) The initials *MPA* mean or refer to the Montana Petroleum Association.

(xiii) The initials *MSCC* mean or refer to the Montana Sulphur & Chemical Company.

(xiv) The initials *NAAQS* mean or refer to National Ambient Air Quality Standards

(xv) The initials *NEDA/CAP* mean or refer to the National Environmental Development Association's Clean Air Project.

(xvi) The initials *NPRA* mean or refer to the National Petrochemical & Refiners Association.

(xvii) The initials *SCAQMD* mean or refer to the South Coast Air Quality Management District.

(xviii) The initials *SIP* mean or refer to State Implementation Plan.

(xix) The initials SO_2 mean or refer to sulfur dioxide.

(xx) The words *State* or *Montana* mean the State of Montana, unless the context indicates otherwise.

(xxi) The initials *SRU* mean or refer to sulfur recovery unit.

(xxii) The initials *SWS* mean or refer to sour water stripper.

(xxiii) The initials *WETA* mean or refer to the Western Environmental Trade Association.

(xxiv) The initials *WSPA* mean or refer to the Western States Petroleum Association.

(xxv) The initials *YCC* mean or refer to the Yellowstone County Commissioners.

(xxvi) The initials *YVAS* mean or refer to the Yellowstone Valley Audubon Society.

I. Background of the Final Rules

The Clean Air Act (Act) requires EPA to establish national ambient air quality standards (NAAQS) that protect public health and welfare. NAAQS have been established for SO_2 as follows: 0.030 parts per million (ppm) annual standard, not to be exceeded in a calendar year; 0.14 ppm 24-hour standard, not to be exceeded more than once per calendar year; and 0.5 ppm 3-hour standard, not to be exceeded more

than once per calendar year. See 40 CFR 50.4 and 50.5. The Act also requires states to prepare and gain EPA approval of a plan, termed a State Implementation Plan (SIP), to assure that the NAAQS are attained and maintained.

Dispersion modeling completed in 1991 and 1993 for the Billings/Laurel area of Montana predicted that the SO_2 NAAQS were not being attained. As a result, in March 1993 EPA (pursuant to sections 110(a)(2)(H) and 110(k)(5) of the Act, 42 U.S.C. 7410(a)(2)(H) and 7410(k)(5)) requested the State of Montana to revise its previously approved SO_2 SIP for the Billings/Laurel area. See 58 FR 41450, August 4, 1993. In response, the State submitted revisions to the SO_2 SIP on September 6, 1995, August 27, 1996, April 2, 1997, July 29, 1998, and May 4, 2000.

On May 2, 2002 (67 FR 22168) and May 22, 2003 (68 FR 27908), we partially approved, partially disapproved, limitedly approved, and limitedly disapproved the Billings/Laurel SO_2 SIP. In those actions we disapproved the following:

- The attainment demonstration due to issues with various emission limits, inappropriate stack height credit, and lack of emission limits on flares.
- The emission limits for Montana Sulphur & Chemical Company's (MSCC's) sulfur recovery unit (SRU) 100-meter stack and the stack height credit on which those limits were based.
- The emission limits for MSCC's auxiliary vent stacks due to lack of an adequate limit on fuel burned in the associated heaters and boilers and lack of a reliable compliance determining method.
- The emission limits for MSCC's 30-meter stack due to lack of an adequate limit on fuel burned in the associated heaters and boilers, and lack of a reliable compliance determining method.
- Provisions that allowed sour water stripper overheads to be burned in the flares at CHS Inc. and ExxonMobil.
- ExxonMobil's refinery fuel gas combustion device emission limits and associated compliance determining methods.
- ExxonMobil's Coker CO Boiler stack emission limits and associated compliance determining methods.
- CHS Inc.'s combustion source emission limits and certain associated compliance determining methods.

On June 10, 2002, MSCC petitioned the United States Court of Appeals for the Ninth Circuit for review of EPA's May 2, 2002, final SIP action. Subsequently, MSCC and EPA agreed to a stay of the litigation pending EPA's final action on this FIP. The case is captioned *Montana Sulphur & Chemical Company* v. *United States Environmental Protection Agency,* No. 02–71657. No petitions for judicial review were filed regarding EPA's May 22, 2003, SIP action.

On July 12, 2006 (71 FR 39259), EPA proposed Federal Implementation Plan (FIP) provisions for the Billings/Laurel, Montana area because of our disapproval of portions of Montana's Billings/Laurel SO_2 SIP. In our proposal, we indicated that our FIP would not replace the SIP entirely, but instead would only replace elements of, or fill gaps in, the SIP.

In promulgating today's rules, EPA is fulfilling its mandatory duty under section 110(c) of the Act. Under section 110(c), whenever we disapprove a SIP, in whole or in part, we are required to promulgate a FIP. Specifically, section 110(c) provides:

> ''(1) The Administrator shall promulgate a Federal implementation plan at any time within 2 years after the Administrator—
>
> (A) Finds that a State has failed to make a required submission or finds that the plan or plan revision submitted by the State does not satisfy the minimum criteria established under [section 110(k)(1)(A)],[1] or
>
> (B) Disapproves a State implementation plan submission in whole or in part, unless the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such Federal implementation plan.''

Thus, because we disapproved portions of the Billings/Laurel SO_2 SIP, and the attainment demonstration, we are required to promulgate a FIP.

Section 302(y) defines the term ''Federal implementation plan'' in pertinent part, as:

> ''[A] plan (or portion thereof) promulgated by the Administrator to fill all or a portion of a gap or otherwise correct all or a portion of an inadequacy in a State implementation plan, and which includes enforceable emission limitations or other control measures, means or techniques (including economic incentives, such as marketable permits or auctions or emissions allowances) * * *.''

More simply, a FIP is ''a set of enforceable federal regulations that stand in the place of deficient portions of a SIP.'' *McCarthy* v. *Thomas,* 27 F.3d 1363, 1365 (9th Cir. 1994). As the Court of Appeals for the D.C. Circuit noted in a 1995 case, FIPs are powerful tools to remedy deficient state action:

> The FIP provides an additional incentive for state compliance because it rescinds state authority to make the many sensitive technical and political choices that a pollution control regime demands. The FIP provision also ensures that progress toward NAAQS attainment will proceed notwithstanding inadequate action at the state level.

Natural Resources Defense Council, Inc. v. *Browner*, 57 F.3d 1122, 1124 (D.C. Cir. 1995).

When EPA promulgates a FIP, courts have not required EPA to demonstrate explicit authority for specific measures: ''We are inclined to construe Congress' broad grant of power to the EPA as including all enforcement devices reasonably necessary to the achievement and maintenance of the goals established by the legislation.'' *South Terminal Corp.* v. *EPA*, 504 F.2d 646, 669 (1st Cir. 1974). As the Ninth Circuit stated in a case involving a FIP with far-reaching consequences in Los Angeles: ''The authority to regulate pollution carries with it the power to do so in a manner reasonably calculated to reach that end.'' *City of Santa Rosa* v. *EPA*, 534 F.2d 150, 155 (9th Cir. 1976), *vacated and remanded on other grounds sub nom. Pacific Legal Foundation* v. *EPA*, 429 U.S. 990 (1976).

In addition to giving EPA remedial authority, section 110(c) enables EPA to assume the powers that the state would have to protect air quality, when the state fails to adequately discharge its planning responsibility. As the Ninth Circuit held, when EPA acts to fill in the gaps in an inadequate state plan under section 110(c), EPA '' 'stands in the shoes of the defaulting State, and all of the rights and duties that would otherwise fall to the State accrue instead to EPA.' '' *Central Arizona Water Conservation District* v. *EPA*, 990 F.2d 1531, 1541 (9th Cir. 1993). As the First Circuit held in an early case:

> ''[T]he Administrator must promulgate promptly regulations setting forth 'an implementation plan for a State' should the state itself fail to propose a satisfactory one * * * The statutory scheme would be unworkable were it read as giving to EPA, when promulgating an implementation plan for a state, less than those necessary measures allowed by Congress to a state to accomplish federal clean air goals. We do not adopt any such crippling interpretation.''

South Terminal Corp. v. *EPA, supra,* at 668 (citing previous version of section 110(c)).

The Billings/Laurel SO_2 FIP establishes emission limits and compliance determining methods for four sources located in Billings/Laurel, Montana, to replace/fill gaps in portions of the SIP we disapproved, and to

[1] Section 110(k)(1) requires the Administrator to promulgate minimum criteria that any plan submission must meet before EPA is required to act on the submission. These completeness criteria are set forth at 40 CFR 51, Appendix V.

support our attainment demonstration. Three of the sources are petroleum refineries: CHS Inc., ConocoPhillips (including the Jupiter Sulfur facility), and ExxonMobil. The fourth source is Montana Sulphur & Chemical Company, which provides sulfur recovery for the ExxonMobil refinery.

The following is a summary of the major components of our FIP rule:

(1) The FIP establishes flare emission limits at all four sources (150 lbs SO_2/3-hour period at all but the Jupiter Sulfur flare, 75 lbs SO_2/3-hour period shared limit for the Jupiter Sulfur flare and the Jupiter Sulfur SRU/ATS stack) and monitoring methods to determine compliance with those limits. The FIP includes an affirmative defense to penalties for violations of the flare limits that occur during malfunction, startup, and shutdown periods. To determine flare emissions, the FIP requires concentration monitoring (which can consist of continuous monitoring, grab sampling, or integrated sampling) and continuous flow monitoring.

(2) The FIP prohibits the burning of sour water stripper overheads in CHS Inc.'s main crude heater and requires CHS Inc. to keep the valve between the old sour water stripper and the main crude heater closed, chained, and locked.

(3) The FIP provides that emission limits for identified ExxonMobil refinery fuel gas combustion units are contained in the SIP, and establishes compliance determining methods for instances in which the H_2S concentration in the refinery fuel gas stream exceeds 1200 ppmv. These methods involve the use of length-of-stain detector tubes on a once-per-hour frequency.

(4) The FIP provides that emission limits for ExxonMobil's Coker CO Boiler stack, when ExxonMobil's Coker unit is operating and Coker unit flue gases are burned in the Coker CO Boiler, are contained in the SIP. The FIP establishes compliance determining methods for these emission limits that require measurement of the SO_2 concentration and flow rate in the Coker CO Boiler stack using CEMS.

(5) The FIP establishes emission limits on MSCC's SRU 100-meter stack, based on good engineering practice (GEP) stack height credit of 65 meters, with compliance with these limits to be determined using methods already approved in the SIP. The FIP does not provide variable emission limits for this stack.

(6) The FIP establishes emission limits and compliance determining methods for MSCC's auxiliary vent stacks and SRU 30-meter stack. In addition to mass limits, the FIP establishes concentration limits on fuel burned in the units that vent to the auxiliary vent stacks and SRU 30-meter stack. These concentration limits are 160 ppm H_2S per 3-hour period and 100 ppm H_2S per calendar day. When trigger events specified in the rule occur, MSCC must measure the H_2S concentration in the fuel using length-of-stain detector tubes on a once-per-3-hour period.

(7) The FIP establishes various recordkeeping and reporting requirements.

It is important to note that, in cases where the provisions of the FIP address emissions activities differently or establish different requirements than provisions of the SIP, the provisions of the FIP take precedence. We also caution that if any of the four sources are subject to requirements under other provisions of the Act (e.g., section 111 or 112, part C of title I, or SIP-approved permit programs under part A of title I), our promulgation of the FIP does not excuse any of the sources from meeting such requirements. Finally, our promulgation of the FIP does not imply any sort of applicability determination under other provisions of the Act (e.g., section 111 or 112, part C of title I, or SIP-approved permit programs under part A of title I).

II. Issues Raised by Commenters and EPA's Response

A. FIP Not Necessary

1. Ambient Data and Historical Modeling Show Attainment

(a) *Comment (CHS Inc., COPC, ExxonMobil, NPRA, MPA, MDEQ, MSCC, WETA):* The FIP is not necessary for attainment of the NAAQS because ambient data show that the Billings/Laurel area has been for many years and continues to be in attainment with both the Federal and State SO_2 ambient air quality standards for all averaging periods.

Response: EPA does not agree that a FIP is not necessary because ambient data show attainment of the SO_2 NAAQS. Ambient monitoring is limited in time and in space. Ambient monitoring can measure pollutant concentrations only as they occur; it cannot predict future concentrations when emission levels and meteorological conditions may differ from present conditions.

EPA has long held that ambient monitoring data alone generally are not adequate for SO_2 attainment demonstrations. Additionally, a small number of ambient SO_2 monitors usually are not representative of the air quality for an area. (See reference document GGGGG, April 21, 1983, memorandum from Sheldon Meyers, Director, Office of Air Quality Planning and Standards (OAQPS), to Regional Air and Waste Division Directors, titled ''Section 107 Designation Policy Summary,'' and reference document HHHHH, September 4, 1992, memorandum from John Calcagni, Director, Air Quality Management Division, OAQPS, to Regional Air Division Directors, titled ''Procedures for Processing Requests to Redesignate Areas to Attainment.'')

Typically, modeling estimates of maximum ambient concentrations are based on a fairly infrequent combination of meteorological and source operating conditions. To capture such results on an ambient monitor would normally require a prohibitively large and expensive network. Therefore, dispersion modeling is generally necessary to comprehensively evaluate sources' impacts and to determine the areas of expected high concentrations. (*Id.*) Air quality modeling results would be especially important if sources were not emitting at their maximum level during the monitoring period or if the monitoring period did not coincide with potentially worst-case meteorological conditions. Further, ambient monitoring data are not adequate if sources are using stacks with actual heights greater than good engineering practice stack height (which indeed is the case with MSCC and ConocoPhillips) or other dispersion techniques for which SIP/FIP modeling credit is not allowed. (See also our discussion of related issues in our final action on the Billings/Laurel SO_2 SIP (67 FR 22168, 22185–22187, May 2, 2002.))

Ambient monitoring data and air quality modeling data for a particular area can sometimes appear to conflict. This is primarily due to the fact that modeling results may predict maximum SO_2 concentration at receptors where no monitors are located.

Moreover, our SIP Call for the Billings/Laurel area was based on modeled violations of the SO_2 NAAQS, not monitored violations. (See reference documents Y and Z.) We took final action on the SIP Call in our May 2, 2002, action on the Billings/Laurel SIP (67 FR 22168, 22173), and we are not revisiting it in this FIP action. It would be inconsistent and inappropriate to now rely solely on monitoring to determine necessary measures and demonstrate attainment.

It is especially important to recognize that, as a result of our partial and limited disapproval of the Billings/

Laurel SO_2 SIP, we are legally obligated to promulgate a FIP for the area. See section 110(c)(1) of the CAA, 42 U.S.C. 7410(c)(1). However, the SIP deficiencies that triggered our partial and limited disapproval were varied and were not necessarily associated with problems that could be measured at an ambient monitor. For example, one basis for disapproval of the SIP was the State's use of improper (too tall) stack height credit for MSCC in modeling attainment of the NAAQS. In the real world, emissions at the actual (100 meter) height of the stack create less impact on monitored ambient concentrations in the Billings/Laurel area than if the emissions were emitted from a lower stack. Nonetheless, we had to partially disapprove the SIP due to the State's inappropriate grant of stack height credit, and section 110(c) of the CAA requires that we correct the deficiency. Since the State did not model attainment at the proper stack height credit for MSCC's stack, it was necessary that we do so and set emission limits for the stack consistent with our attainment demonstration. We believe MSCC has consistently been meeting the emission limits we are adopting, so there may be no reduction in actual emissions from the stack, but that does not mean the CAA allows us to forego this aspect of the FIP.

Likewise, CAA sections 110(a)(2)(A) and (C) require that SIP control measures be enforceable. We disapproved several source monitoring methods because they were not adequate to determine compliance under all operating conditions. It may be impossible to measure the impact these SIP deficiencies may have on ambient SO_2 concentrations in the area, but the CAA still requires that we correct the deficiencies. Regarding the emission limits and compliance determining methods for the flares, the State-only flare limits, which the State relied on to demonstrate attainment, may have positively impacted flare emissions in the past few years. However, the State did not include the State-only flare limits or adequate compliance determining methods in the SIP. Thus, the SIP remains deficient. We now have the responsibility to ensure that emission limits relied on to demonstrate attainment are included in the SIP and are practically enforceable, consistent with the requirements of section 110 of the Act.

(b) *Comment (MSCC, MDEQ):* The State's SIP modeling, along with appropriate emission limits, show attainment of the NAAQS.

Response: EPA addressed this issue in its actions on Montana's SIP submissions. As explained in those actions, EPA does not agree that the State's SIP modeling, along with appropriate emission limits, show attainment of the NAAQS. EPA's formal determinations regarding the attainment demonstration and emission limits were made in final actions on May 2, 2002 (67 FR 22168) and May 22, 2003 (68 FR 27908). The FIP fills the gaps for the provisions we disapproved.

We note that we have not reopened our SIP actions as part of this action. Thus, to the extent the commenters are expressing their disagreement with EPA's actions on the SIP, their comments are not relevant to this action, and EPA is not re-considering them here.

(c) *Comment (ExxonMobil):* EPA's proposed FIP ignores the substantial improvement in air quality in the Billings/Laurel area and instead predicts exceedances of NAAQS based upon modeling performed as long as 15 years ago. EPA's FIP proposal must be further examined in light of subsequent developments, including correct modeling and consideration of currently available information indicating compliance.

Response: See response to comment II.A.1.(a), above, regarding ambient data and response to comments in section II.E., below, regarding modeling.

2. Existing Controls Sufficient

(a) *Comment (MDEQ, MSCC, COPC, ExxonMobil, MPA, NPRA, WETA):* The FIP offers questionable improvements because the existing control plan provisions submitted by the state are adequate and contain sufficient SO_2 emission controls and strategies and provide for the implementation, maintenance, and enforcement of the SO_2 NAAQS.

Response: EPA addressed the adequacy of Montana's SIP submissions in its final actions on the SIP. As explained in those actions, EPA does not agree that the State's SIP control plan provisions are adequate and contain sufficient SO_2 emission controls to show attainment of the NAAQS. EPA's formal determinations regarding the attainment demonstration and emission control plan were made in final actions on May 2, 2002 (67 FR 22168) and May 22, 2003 (68 FR 27908). In our May 2002 and May 2003 actions we disapproved various control plan provisions. The FIP fills the gaps for the provisions we disapproved. The FIP offers necessary improvements to the SIP by imposing new emission limits and reliable compliance determining methods to ensure attainment of the SO_2 NAAQS.

We note that we have not reopened our SIP actions as part of this action. Thus, to the extent the commenters are expressing their disagreement with EPA's actions on the SIP, their comments are not relevant to this action, and EPA is not re-considering them here.

(b) *Comment (CHS Inc., WETA, COPC, MDEQ, ExxonMobil, NPRA):* In addition to the SIP, SO_2 emissions in the Billings/Laurel area have decreased as a result of Consent Decrees and Montana Air Quality Permit changes. These limits are all federally enforceable because there are Title V operating permit conditions (CHS Inc.). EPA did not consider these emission reductions in making its determination that the FIP was necessary. The FIP proposal does not otherwise acknowledge the practical effects of the recent consent decrees between the primary refinery parties subject to regulation as well as other permitting actions that have occurred over the past eight years (MSCC, COPC).

Response: EPA did not consider the emission reductions that resulted, or will result, from the consent decrees and/or State permit revisions to determine that the FIP was necessary or include the emission reductions in our modeling for several reasons.

First, the FIP is required because we disapproved the SIP, and the State has not made revisions to the SIP to address the SIP's flaws. As noted in other responses, because we disapproved the SIP, we have a legal obligation to promulgate a FIP. See CAA section 110(c), 42 U.S.C. 7410(c).

Second, even though permits and consent decrees are federally enforceable, some permits can be revised without EPA approval and consent decrees have a limited lifespan.[2] To protect the integrity of the attainment demonstration, and our statutory role in assessing SIP/FIP adequacy, we believe that stationary source emission limits necessary to demonstrate attainment must be included in the FIP (or approved SIP). See, *e.g.*, CAA sections 110(a)(2)(A), 110(i), 110(k)(3)–(6), and 110(l), 42 U.S.C. 7410(a)(2)(A), (i), (k)(3)–(6), and (l). This ensures that changes to those limits will only be made with EPA's approval as a SIP or FIP revision,

[2] The State can revise construction permits without EPA approval, and, while EPA has authority to object to Title V permits, that authority is only available to ensure that underlying applicable requirements are included in the Title V permits. Thus, if those underlying requirements change, EPA may have no recourse at the Title V stage.

following notice and comment rulemaking.

Third, the consent decrees and permitting actions, for some emission points, do not contain SO_2 emission limits that are consistent with the averaging times of the SO_2 NAAQS, specifically, the 3-hour and calendar day averaging periods. For example, the SIP establishes 3-hour, calendar day, and calendar year emission limits for CHS Inc.'s FCC regenerator/CO boiler stack. The January 17, 2007, final State construction permit (reference document IIIII) and the consent decree (reference document JJJJJ) indicate that the FCC regenerator stack SO_2 emissions shall not exceed 50 ppm by volume (corrected to 0% O_2) for a 7-day rolling average [or a fresh feed of 0.3 percent by weight] and 25 ppm by volume (corrected to 0% O_2) for a 365-day rolling average. None of the commenters has suggested these limits be converted to FIP mass limits that would apply over a 3-hour averaging period, and the State has not submitted a SIP revision with such limits.

It should be noted that EPA did solicit comment on whether we should limit the main flares to 500 pounds of SO_2 per calendar day. This value is consistent with the trigger point for certain analyses contained in settlements (i.e., consent decrees) between the United States and CHS Inc., ConocoPhillips, and ExxonMobil. We received limited comments on this proposal and have decided to keep the limit at 150 pounds of SO_2 per 3-hour period to maintain consistency with the State's State-only limit.

B. EPA Exceeded Its Authority in Proposing a FIP

1. State's Responsibility

(a) *Comment (WETA, MPA, ExxonMobil):* EPA's role is limited to determining whether or not a SIP is attaining and maintaining the NAAQS. Selecting the source mix and various control measures to achieve these ends has been determined by courts to be the sole responsibility of the state. EPA's proposed action intrudes on the primary responsibility of the state and local governments to implement the Clean Air Act (MSCC).

Response: The commenters' characterization of EPA's role regarding SIPs is not accurate. We lack authority to question a state's choices of emissions limitations *if they are part of a plan that satisfies the standards of the Clean Air Act. Train* v. *Natural Resources Defense Council,* 95 S.Ct. 1470, 1481–1482 (1975). In our 2002 and 2003 actions, we found that Montana's SO_2 SIP for Billings/Laurel did not fully satisfy CAA requirements. See 67 FR 22168, May 2, 2002 and 68 FR 27908, May 22, 2003. Thus, pursuant to section 110(c) of the CAA, 42 U.S.C. 7410(c), we are required to promulgate a FIP. In doing so, we stand in the state's shoes and have authority to determine emissions limitations and other measures for specific sources to fill gaps in the SIP. *Central Arizona Water Conservation District* v. *EPA,* 990 F.2d 1531, 1541 (9th Cir. 1993); *South Terminal Corp.* v. *EPA,* 504 F.2d 646, 668 (1st Cir. 1974) (citing previous version of CAA section 110(c)).

We note that we have not reopened our SIP actions as part of this action. Thus, to the extent the commenters are expressing their disagreement with EPA's actions on the SIP, their comments are not relevant to this action, and EPA is not re-considering them here.

(b) *Comment (WETA):* Since the State of Montana has already taken appropriate actions to reduce sulfur dioxide emissions, EPA does not have the authority under the CAA to adopt the proposed FIP.

Response: See response to comment II.B.1.(a), above. The adequacy of the State of Montana's actions has already been considered by EPA in other rulemaking actions that addressed the State's SIP submission. Those actions are not the subject of EPA's present rulemaking, which promulgates the necessary measures to remedy the deficiencies EPA identified in its prior SIP reviews.

(c) *Comment (MSCC):* States have primacy, and because EPA did not choose to exercise its rights in the comprehensive and competent state decision process, EPA may not default and then act.

Response: Under section 110(c) of the Act, EPA is not required to participate in a state's administrative process before promulgating a FIP.

(d) *Comment (MSCC, MDEQ, ExxonMobil):* EPA has no authority to question the wisdom of a state's choices of emission limitations if they are part of a plan that satisfies the standards of § 110(a)(2) of the Act. As long as the ultimate effect of a state's choice of emission limitations is compliance with the NAAQS, the state is at liberty to adopt whatever mix of emission limitations it deems best suited to its particular situation. There is no evidence provided by EPA that Montana reached its material conclusions or choices in the SIP unreasonably. Additionally, EPA has not shown that additional controls beyond the SIP measures adopted by Montana are necessary to meet or assure SO_2 NAAQS compliance.

Response: See our responses to comments II.A.1.(a) and II.B.1.(a), above. Much of this comment pertains to our actions on Montana's SIP. We are not revisiting or reopening comment on those actions here. Our basis for finding that the SIP was not adequate to ensure attainment and meet other CAA requirements is described in our actions on the SIP. Once we disapprove part or all of a required SIP, section 110(c) of the Act requires that we issue a FIP. Our obligation in this action is to correct the SIP deficiencies we previously identified. Thus, the findings that triggered our responsibility to promulgate a FIP were established in the prior rulemaking actions reviewing Montana's SIP. EPA is not required to repeat those findings in the FIP rulemaking itself.

(e) *Comment (ExxonMobil):* EPA cannot propose a FIP to replace a SIP, unless the SIP is substantially inadequate to ensure compliance with the CAA.

Response: The commenter misstates the standard for promulgation of a FIP. Section 110(c) of the CAA is straightforward—a FIP is required if (1) EPA finds that a state has failed to make a required submission; (2) EPA finds that a plan submission does not satisfy the completeness criteria established under section 110(k)(1)(A) of the CAA; or (3) EPA disapproves a SIP in whole or in part. EPA partially disapproved the Billings/Laurel SO_2 SIP; thus, a FIP is required. Contrary to the commenter's assertion, the obligation to promulgate a FIP is not contingent on an EPA finding of substantial inadequacy. As explained above, the findings triggering our responsibility to promulgate a FIP were made in the prior actions reviewing Montana's SIP.

(f) *Comment (MSCC):* The commenter claims EPA's action violates the Tenth Amendment to the Constitution. The commenter also claims EPA's FIP is dictating the required controls in contravention of the holdings in *Commonwealth of Virginia* v. *EPA*, 108 F.3d 1397 (D.C. Cir. 1997) and *Bethlehem Steel* v. *Gorsuch,* 742 F.2d 1028 (7th Cir. 1984).

Response: Our FIP compels no action on the part of the State and is not coercive vis-à-vis the State. Our FIP contains requirements applicable to four private companies. The Tenth Amendment is not implicated. Nor do our actions contravene *Commonwealth of Virginia* or *Bethlehem Steel*. The former case held that EPA cannot, in a SIP Call, dictate that a state adopt a particular control measure to

demonstrate attainment of the NAAQS. EPA had issued a SIP Call finding that the SIPs of 12 states were inadequate to meet the ozone NAAQS and in its SIP Call rule, specified that the states needed to submit SIPs that included the California Low Emission Vehicle Program. In this matter, we are promulgating a FIP, not issuing a SIP Call. We are not directing any action by the State. Thus, the *Commonwealth of Virginia* case is not relevant to our FIP. *Bethlehem Steel* is also not relevant to our FIP action. In that case, the 7th Circuit held that it was improper for EPA to partially approve an Indiana SIP revision so as to render it more stringent than the State intended. We are promulgating a FIP in this action, not acting on a SIP; thus, *Bethlehem Steel* does not apply. As we note elsewhere, once we disapprove a SIP, we are required to promulgate a FIP, and in promulgating the FIP, we stand in the state's shoes. See section 110(c) of the CAA, 42 U.S.C. 7410(c); *Central Arizona Water Conservation District* v. *EPA,* 990 F.2d 1531, 1541 (9th Cir. 1993).

(g) *Comment (MSCC):* The commenter argues that the cases EPA cited in the preamble to the proposed Billings/Laurel FIP, regarding its FIP authority, do not speak to the central question—''When and on what authority may the EPA undertake the draconian act of displacing a state's implementation plan?'' The commenter argues that the question is particularly sensitive in this case because the State and the sources spent years negotiating the SIP.

Response: As noted in response to comment II.B.1.(e), the CAA requires that we promulgate a FIP whenever we disapprove a SIP, in whole or in part. While we are sensitive to the fact that the State and sources spent years negotiating the SIP, that does not change our obligation under the CAA.

2. No Adequate Basis for FIP

(a) *Comment (MSCC, ExxonMobil):* Because EPA must find substantive noncompliance with some provision of the Clean Air Act, specifically, failure to attain NAAQS, and because that finding of substantial inadequacy must be clearly stated, the present FIP decision must fall. It is inadequate on both counts. EPA has not provided any evidence that the State plan is not working.

Response: See our response to comment II.B.1.(e), above. The evidence supporting EPA's determinations regarding the adequacy of Montana's SIP is contained in the record for those rulemaking actions, and need not be repeated here. EPA's disapproval of the SIP triggered the obligation for a FIP. No separate showing that the State plan is not working or does not meet CAA requirements is needed as part of this action. Commenters' comments regarding EPA's SIP actions are not relevant for this rulemaking.

(b) *Comment (ExxonMobil):* Even when the EPA has statutory authority for a particular rule, its technical decisions about the level of pollutant reduction needed to comply with the CAA and the control strategies necessary to meet the level of pollutant reduction must be rational. Courts ''confronted with important and seemingly plausible objections going to the heart of a key technical determination * * * '' will not presume that EPA would never behave irrationally. *South Terminal Corporation* v. *Environmental Protection Agency*, 504 F.2d 646, 665 (1st Cir. 1974). In *South Terminal Corporation*, various interested parties challenged EPA's FIP on technical grounds. *Id.* at 662–66. The court held that EPA failed to adequately support its decision to promulgate the rules contained in the FIP and remanded the case to EPA to develop the record. *Id.* at 666. The court questioned EPA's position in light of contradictory modeling and data, concluding that ''it is not clear whether or not the ambient air at Logan meets, or will without controls by mid-1975 will meet, the national primary standard.'' *Id.* 664. Similarly, in the present FIP proposal, EPA has neither determined appropriate current modeling nor used currently available information.

Response: The standards for judicial review of this rulemaking action are contained in section 307(d)(9) of the CAA, 42 U.S.C. 7607(d)(9). We believe the emission limitations and other requirements in this FIP are reasonable and that the situation in the cited case is not analogous.[3] The commenter has not identified any modeling that contradicts our attainment demonstration, which forms the basis for the FIP's emission limitations; nor has the commenter shown that a different model would result in substantially different emission limitations. Our responses pertaining to model selection and input data are contained in section II.E., below. Further, we note that it does not appear the commenter is suggesting that the entire SIP should be re-done based on more current modeling and more up-to-date information. On the contrary, the commenter seems satisfied with the EPA-approved emission limitations in the SIP,[4] which were based on the very modeling that the commenter now claims is unreliable.

(c) *Comment (ExxonMobil):* Citing *Hall* v. *United States Environmental Protection Agency,* 273 F.3d 1146, 1159 (9th Cir. 2001), the commenter states that in acting on a SIP, the test EPA applies is to ''measure the existing level of pollution, compare it with the national standards, and determine the effect on this comparison of specified emission modifications.'' The commenter argues that in the FIP proposal, EPA did not correctly identify the existing level of pollution and ignored the substantial evidence of permanently reduced SO_2 emissions and levels in the Billings/Laurel area. The commenter also argues that EPA's authority is limited by its mandate under the CAA to ensure attainment and maintenance of the NAAQS as well as the CAA's other general requirements.

Response: See responses to comments II.A.1.(a), II.A.2(b), and II.E.1.(e) and (g). Also, the *Hall* case involved a challenge to EPA's approval of a SIP revision for Clark County, Nevada, and EPA's interpretation of section 110(l) of the CAA, which provides that EPA may not approve a SIP revision if it would interfere with attainment or other applicable requirements of the CAA. EPA asserted that its approval of the Clark County SIP revision was consistent with section 110(l) because the revision did not relax the existing SIP. The Court disagreed, holding that 110(l) requires more—a determination that the specific revision, when considered in the context of the SIP elements already in place, can meet the Act's attainment requirements. *Hall* at 1152, 1159. It was in these circumstances that the Court expected EPA to determine the extent of pollution reductions required and evaluate whether the reductions resulting from the revision would be sufficient to attain the NAAQS.

In its reference to *Hall,* the commenter appears to be conflating two disparate concepts. The *Hall* Court was addressing EPA's action on a SIP revision and indicating that EPA was not adequately evaluating whether Clark County's rule change would interfere

[3] In *South Terminal Corporation,* EPA had determined emissions reductions needed to achieve the ozone and carbon dioxide NAAQS based on monitored values that the Court found highly questionable (petitioners claimed the ozone monitor was defective). *South Terminal Corporation,* 504 F.2d 646, 662 (1974). The commenter seems to suggest that the Court rejected EPA's modeling approach, but in fact, the Court was satisfied with the rollback modeling that EPA used. *Id.*

[4] Among other things, the commenter asserts that the state SIP requirements are adequate to protect the NAAQS. See reference document YYYY, page 27.

with attainment and other CAA requirements. The Court was not establishing a standard for a FIP or indicating that EPA was requiring more than necessary for the area, which seems to be what the commenter is suggesting in the case of the Billings/Laurel FIP. As we explain in greater depth elsewhere in this notice, we are not starting from scratch with our FIP. Instead, we are working within the framework of the existing Billings/Laurel SIP to fill the gaps resulting from our partial and limited disapproval of discrete SIP elements. In this unique circumstance, where only discrete elements of the SIP were deficient, the CAA does not require us to reevaluate or replace the entire SIP or the basic modeling approach upon which it was based. Nothing in the CAA requires EPA to reject an entire SIP when only certain elements within it are not approvable, and doing so, where that is not necessary to address a discrete deficiency, would be inconsistent with the basic scheme of cooperative federalism embodied in the CAA.

Nor are we required as part of this FIP to revisit our SIP Call or the bases for our SIP disapproval. Our task is to fix the portions of the SIP that were deficient. It is reasonable to continue to treat as valid the factors we found adequate to support the portions of the SIP we approved, and augment and/or replace those factors that we found inadequate. In fact, based on the holding in *Train* v. *NRDC,* 421 U.S. 57 (1975), recited by this commenter and others, it would be inappropriate for EPA to now reject or replace the portions of the SIP that we approved as meeting the CAA's requirements, because to do so would be to intrude on the State's authority under the CAA to establish the mix of controls for the area.[5] The State, of course, remains free to submit a SIP revision that reflects a different mix of controls across all the sources. This would be the mechanism, for example, whereby the State could adopt SIP limits that correlate to refinery consent decree limits.[6] If the State were to submit such a revision, we would evaluate the revision according to the Act, our regulations, and the relevant cases.

(d) *Comment (ExxonMobil):* EPA's proposal imposes costly technology requirements not rationally designed to achieving their stated objectives. While EPA has authority to impose an emission limitation, the emission limitation must be necessary to attain NAAQS. *City of Santa Rosa* v. *EPA*, 534 F.2d 150, 155 (9th Cir. 1976), vacated on other grounds, 429 U.S. 990 (1976). The EPA derived its authority in *City of Santa Rosa* from its statutory mandate to ensure compliance with NAAQS and the fact that no alternative to its proposal was adequate to ensure compliance with NAAQS. It is clear that Montana's existing SIP, supplemented as it is by further state and federally enforceable consent decrees are a more than adequate alternative.

Response: The cited case actually stands for the proposition that EPA's authority to adopt measures to meet the NAAQS is expansive. EPA adopted a FIP provision that would have required a substantial reduction (up to 100%) in the supply of gasoline to major metropolitan areas in California, including Los Angeles. Even the EPA acknowledged that the rule would cause severe social and economic disruption, and the EPA Administrator at the time publicly advocated amendments to the CAA to provide relief from EPA's own FIP rule. Nonetheless, the Court held that economic and social disruption are not cognizable if (1) a measure is necessary to attain the NAAQS; (2) there is no statutory limitation on EPA's authority to adopt the measure; and (3) there are no equally effective, less burdensome alternatives. *City of Santa Rosa* at 151–154.

The measures EPA is promulgating in this FIP are in no way comparable to the reduction in gasoline supply at issue in the *City of Santa Rosa* case. Our FIP is narrowly tailored to fill the gaps in the Billings/Laurel SIP. Section 110(c) requires us to promulgate the FIP. There is no statutory limitation on our authority to adopt the measures we are adopting. On the contrary, section 110(a)(2)(A) of the Act requires enforceable emission limitations as necessary or appropriate to meet the applicable requirements of the Act, which include attainment and maintenance of the SO_2 NAAQS. Using ISC, the same model the State used to set the commenter's emission limits in the SIP, we have determined emission levels consistent with attainment and established corresponding emission limits on the flares, MSCC's main stack, and other emission units, whose emission limits we disapproved in our SIP action. While the authority to require monitoring, recordkeeping, and reporting requirements can be inferred from CAA sections 110(a)(2)(A) and (C), section 110(a)(2)(F) of the Act specifically indicates that the EPA Administrator may prescribe the installation, maintenance, and replacement of monitoring equipment by stationary sources, as well as reporting requirements. Our requirement for the refineries and MSCC to install monitoring equipment to measure flare gas flow and concentrations is consistent with this authority and is rationally related to the goals of the FIP, i.e., to ensure attainment and maintenance of the SO_2 NAAQS. We do not believe estimating flare emissions or emissions from other units is a sufficient substitute for real-time monitoring for purposes of this FIP; estimation is not an equally effective technique.

The commenter argues that the existing SIP and the State and federally enforceable consent decrees are a more than adequate alternative to our FIP requirements. This comment ignores the fact that we disapproved portions of the SIP as not meeting the CAA's requirements. Elsewhere we explain that the consent decree provisions are not sufficient to meet the CAA's requirements under section 110 related to attainment and maintenance of the NAAQS. See, *e.g.*, sections II.A.2.(b), II.D.4., and II.E.1.(e).

(e) *Comment (MSCC):* EPA's failure to issue the FIP within the CAA's two-year deadline is important in this case. As a result of EPA's delay, EPA should have to consider the cleanup of emissions that has occurred and significant changes in modeling technology.

Response: We regret that it has taken this long to issue the FIP. We disagree that missing the two-year deadline obviates our duty or the need for the FIP. The State has not submitted a SIP revision correcting the portions of the SIP that we disapproved, despite the passage of time. Regarding the argument that we should have considered the reduction in emissions since we disapproved the SIP, see our responses to comments in section II.A. In section II.E, we respond to comments arguing

[5] To the extent the commenter is arguing that we may do no more in this FIP than appears minimally necessary to attain the NAAQS, we reject that notion as well. See, e.g., *Central Arizona Water Conservation District* v. *EPA,* 990 F.2d 1531, 1541 (9th Cir. 1993) (EPA ''stands in the shoes of the defaulting State, and all of the rights and duties that would otherwise fall to the State accrue instead to EPA.'') Under the CAA, states are not restricted to barely meeting the NAAQS. In fact, the opposite is true—states may exceed minimum requirements. See CAA section 116, 42 U.S.C. 7416. In any event, our modeled attainment demonstration resulted in projected values just at the 24-hour SO_2 NAAQS (365 $\mu g/m^3$) and just below the 3-hour SO_2 NAAQS (1291.5 $\mu g/m^3$). However, we think we had discretion to adopt limits (to replace those we disapproved) consistent with modeled ambient concentrations further below the NAAQS, if we had felt a larger margin of safety was justified to ensure attainment and maintenance.

[6] As we allude to in sections II.A.2.(b), II.D.4., and II.E.1.(e), the consent decree limits would need to be translated into limits that support an attainment demonstration for the SO_2 NAAQS. In sections II.A.2.(b) and II.D.4., we identify some of our concerns with the consent decree limits.

that we should have used newer modeling technology.

C. Flare Monitoring

1. Flare Flow Monitoring

(a) *Comment (MSCC):* The core flowmeter technology application for flare systems seems to be an established technology, with thousands of installations completed around the world on other types of gas and liquid streams. However, none was identified that is following the precise specifications of the FIP proposal. Installation and operation of a flow meter in flare gas service at MSCC are probably achievable today, but not at the flow range below 1 fps, and not with conventional QA/QC procedures. Flow monitors have a difficult time measuring or reliably detecting low flow velocities (under approximately 1.0 fps) without false positives or false negatives. EPA should revise the proposed rule that currently indicates:

''[t]he minimum detectable velocity of the flow monitoring device(s) shall be 0.1 feet per second (fps). The flow monitoring device(s) shall continuously measure the range of flow rates corresponding to velocities from 0.5 to 275 fps and have a manufacturer's specified accuracy of ±5% over the range of 1 to 275 fps.

The revised rule should read ''[t]he minimum resolution of the flow monitoring device(s) shall be 0.1 feet per second (fps) when measuring flow rates above 1.0 fps. The device(s) shall continuously measure the range of flow rates corresponding to velocities from 1.0 to 275 fps and have a manufacturer's specified accuracy of ±5% over the range of that range.''

The rule should also clarify if ''accuracy'' is intended to be 5% of the full-scale range of the instrument (13.7 fps is 5% of 275 fps), or if this is intended to be 5% of the measured flow, which would be 0.05 fps at a flow of 1 fps, and would clearly be non-achievable with a resolution of 0.1 fps.

Response: EPA proposed the volumetric flow monitoring specifications based on what we saw was achievable in vendor literature (see reference documents NN and OO) and what was being required by regulation in the Bay Area Air Quality Management District (BAAQMD) (see reference document LL) and South Coast Air Quality Management District (SCAQMD) (see reference document CCC).

The commenter asserts that installation and operation of a flow meter at the flow range below 1 fps are not achievable. However, various sources indicate that ultrasonic flow meters can measure in the range of 0.1 to 1 fps. For example, in ''Flare Gas Ultrasonic Flow Meter,'' J.W. Smalling, L.D. Brawsell, L.C. Lynnwoth and D. Russel Wallace, Proceedings Thirty-Ninth Annual Symposium on Instrumentation for the Process Industries, 1984, the authors reported ''initially, a modest objective was established to develop an ultrasonic flow switch capable of detecting leaks in flare lines corresponding to flow velocity on the orders of 0.3 ms/ (1 ft/s). As testing continued, however, it became apparent that the equipment could measure flows below 0.03 m/s (0.1ft/s) and up to at least 6 m/s (20 ft/s) in flare stacks * * *'' (see reference document KKKKK). See also reference document OO, ''the DigitalFlowGF868 meter achieves rangeability of 2750 to 1. It measures velocities from 0.1 to 275 ft/s (0.03 to 85 m/s) in both directions, in steady or rapidly changing flow, in pipes from 3 in. to 120 in. (76 mm to 3 m) in diameter.''

Additionally, the BAAQMD (see reference document LL) and SCAQMD (see reference document CCC) require flow meters on flares. BAAQMD requires that the minimum detectable velocity shall be 0.1 fps and the SCAQMD requires monitors with a velocity range of 0.1 to 250 fps. Based on conversations with the BAAQMD, it appears that the refineries in the Bay Area have installed flow meters meeting the requirements of the rule (see reference document OOOOO).

Based on the above, we conclude that flow meters are available that can measure in the velocity range below 1.0 fps, and other regulatory authorities are requiring such flow meters with success.

The commenter also claims that installation and operation of a flow meter are probably not achievable with conventional QA/QC procedures. The QA/QC procedures are discussed below in response to comment II.C.1.(d).

The commenter argues that flow monitors have a difficult time measuring or reliably detecting low flow velocities (under approximately 1.0 fps) without false positives or false negatives. As indicated in the response to comment II.C.1.(b) below, there are approaches available for improving measurement accuracy in the 0.1 to 1.0 fps range. In addition, as the response to comment II.C.1.(b) indicates, in the final FIP we are specifying a separate accuracy range for the velocity range of 0.1 to 1 fps. Finally, we describe how we are addressing the false positive and false negative flows in response to comment II.C.1.(c).

The commenter asked that the rule clarify if ''accuracy'' of the instrument is intended to be 5% of the full-scale range of the instrument or 5% of the measured flow. In the rule, we have clarified that ''accuracy'' of the instrument is the accuracy of the measured flow and not the ''full-scale range'' of the instrument.

The commenter also suggests some changes to the rule. Apart from adding a separate accuracy range for the velocity range of 0.1 to 1 fps and clarifying that accuracy is based on the measured flow, we are not making any additional changes to this aspect of the rule. We explain our reasoning in the response to this comment II.C.1.(a) and in the responses to comments II.C.1.(b)–(d), below.

(b) *Comment (ExxonMobil, WSPA):* Manufacturers of flow monitoring instrumentation publish impressive performance specifications regarding velocity measurement range and accuracy, but often manufacturers' claims are not actually achieved in practice over the long term. To achieve a high level of measurement performance in the field requires adequate lengths of straight flare header pipe upstream and downstream of the monitor, the absence of flow disturbances, etc. Where these criteria cannot be met, the advertised or predicted performance of the flow monitoring system may not be fully realized in practice. MSCC claimed that significant piping modifications and possible flare relocation would be required to provide such runs at accessible locations. CHS Inc. asserted that it is likely that the CHS refinery flare header will not have adequate distances of undisturbed piping for ideal installation. In this case, either major, costly piping modification will be required or the accuracy criteria will not be achievable.

Response: The commenters are correct that piping modifications may be appropriate to optimize the measurements. Each flare system will have unique flow measurement location issues and will have to be addressed on a case-by-case basis. Sources may need to work with the flow monitor manufacturer and flow testers to assure that the monitors meet the FIP's specifications for accuracy and representativeness and manufacturer's requirements for assuring ongoing equipment performance.

In addition to making piping modifications (e.g. flow straighteners), other approaches are available to improve the measurement accuracy in the 0.1 to 1.0 fps range. Among the approaches are the use of additional monitoring paths, monitoring paths of longer length, and unconventional monitor configurations and path locations. Another approach involves

the use of Computer Fluid Dynamics (CFD) for the existing piping. CFD analysis has been used to provide correction factors for a series of velocities across the range of flow velocities. For example, these factors have been used to correct flow measurement data for disturbances caused by upstream pipe irregularities. These approaches are discussed in ''A Total Approach to Flare Gas Flow Measurement for Environmental Compliance,'' Gordon Mackie, Jed Matson and Mike Scelzo, Institute of Measurement and Control—Environmental Conference 2006. (See reference document LLLLL.) (See also Note to Billings/Laurel SO_2 FIP File regarding conversations with GE Sensing (reference document MMMMM)).

Finally, to address concerns regarding the measurement accuracy in the 0.1 to 1.0 fps range, we are revising the rule to indicate that the flow monitor must have a manufacturer's specified accuracy of ± 20% over the range 0.1 to 1 fps. Based on conversations with a vendor, we believe this is achievable. The vendor indicated that they have provided methodologies for sources to meet the SCAQMD rule, which also requires 20% accuracy in the 0.1 to 1.0 fps range. Methodologies include a second interrogation path or straightening of pipe. (See reference document MMMMM.)

(c) *Comment (ExxonMobil, WSPA, NPRA, MSCC):* Consistently achieving low flow detection limits can be very difficult. Spurious signal, resulting in ''eddy'' currents and back-and-forth flows in the flare header, can easily limit the detection and accuracy of low flow readings. Furthermore, sometimes a flow monitor will show an indication of flow even though water seals ahead of the flare stack remain intact (i.e., there is not flow to the flares). Other regulations in other jurisdictions allow the sources other means to positively determine when the flare is not operating (e.g., flare on/off monitoring device, pressure of water seal). ExxonMobil recommends that similar language be considered by the stakeholder process for inclusion in the EPA's proposed FIP, and thereby remove the uncertainty of low flow reading. MSCC claimed that the EPA proposed FIP language should be revised to allow flare operations to be monitored by other means, and to disregard low flow readings when the flare is not operating to eliminate falsely reported SO_2 emissions, when in fact there are none.

Response: We agree that it is appropriate to include in the regulation the ability to use other secondary means to determine whether flow is reaching the flare when the flow monitor indicates low flow. If the secondary device indicates that no flow is going to the flare, yet the continuous flow monitor is indicating flow, the presumption will be that no flow is going to the flare. We have revised the final rule to allow the use of flare water seal monitoring devices to determine whether there is flow going to the flare, in addition to the continuous flow monitoring device. See response to comment II.F.1.(a) regarding the comment seeking a stakeholder process.

(d) *Comment (ExxonMobil, WSPA):* A limitation of flare gas monitoring systems is the inability to provide for an independent ''in situ'' verification of accuracy. For example, there is no practical way to vary the flare gas flow that the monitor sees, and no practical way to utilize a reference method. Consequently, the calibration of a monitor is performed electronically, and the demonstration of accuracy is based on that calibration method. MSCC asserted that the proposed FIP does not provide adequate guidance to allow development of an acceptable QA/QC system for routine calibration or daily checks of the system. Without clear guidance, it is not possible to specify a system for a systems integrator (DAS/reporting) or an end-user to design or build a system to accomplish these checks.

Response: Since refinery flares contain highly variable flows and highly combustible material, in situ verification of flow measurement accuracy is difficult. For that reason, the performance specifications in the FIP rely in large part on procedures developed by the ultrasonic flow monitor manufacturers [7] for commissioning monitors to assure the monitors will meet performance specifications on an ongoing basis. Manufacturers have established procedures for conducting annual or more frequent verifications of the performance of installed flow monitors as well as for the initial installation and performance verification (see reference document NNNNN). Based on manufacturer established procedures (*Id.*), we expect that the annual verification procedures will address elements such as:

1. Verification of the Flowmeter with Reference Transducers—the purpose is to evaluate all flowmeter subsystems with factory-certified ultrasonic transducers;

2. Mechanical Inspection of Flowmeter Transducers—the purpose is to visually verify the integrity of the flare gas flowmeter transducers and to clean any accumulated debris from the transducer faces;

3. Zero Flow Verification—the purpose is to evaluate the operation of the transducer pair in the flare gas process (the integrity of the original process transducers is tested in a controlled environment);

4. Input/Output Verification—the purpose is to verify the calibration of the analog I/O of the flare gas flowmeter;

5. Electronic Flow Simulation—the purpose is to demonstrate the operation of the flare gas flowmeter over the full measurement range of the instrument; and

6. Flowmeter System Reinstallation and Test—the purpose is to verify that all mechanical systems were properly aligned.

It should also be noted that since ultrasonic flow monitors do not contain any moving parts, their performance is not expected to deteriorate over time. One ultrasonic flow monitoring vendor provided information on the reliability and availability of the transducers (sensors in the flare that transmit and receive the ultrasound) they have installed. The information indicates that the 3,998 transducers installed between first quarter 2005 and first quarter 2007 had a reliability percentage of 94.32% and an availability percentage of 99.96%. (See reference documents MMMMM and XXXXXX.) (See also reference document LLLLL, ''A Total Approach to Flare Gas Flow Measurement for Environmental Compliance,'' Gordon Mackie, Jed Matson and Mike Scelzo, GE Sensing, Institute of Measurement and Control, Environmental Conference 2006, and reference document NNNNN, April 5, 2007, email from Jed Matson, GE Sensing, to Laurie Ostrand, EPA, containing flare gas flow meter procedures.

(e) *Comment (COPC):* ConocoPhillips asserts it would need to replace a GE Panametrics flare flow monitor that is well-suited to the variable flow conditions it experiences, but does not conform precisely to the proposed specifications. It is difficult to quantify what additional benefit this change would provide although the cost is significant and quantifiable. The benefit evaluation is further clouded because of the relatively recent installation of the Flare Gas Recovery Unit (FGRU). There is no flow to measure in the flare header when the FGRU is operating. The FGRU operates on a full-time basis, with the exception of nominal periods of malfunction or maintenance.

Response: As indicated above, each source will have unique issues that will have to be addressed on a case-by-case basis.

[7] Ultrasonic flow monitors will most likely be the monitors installed to meet the FIP's flow monitoring performance specifications.

We understand that ConocoPhillips has a FGRU and ExxonMobil will be installing one. We do not agree that a source with a FGRU should be exempted from monitoring flow to the flare. We still believe it is reasonable to include this requirement to gain an accurate picture of occasions when flow is going to the flare. We note that other areas that have required refinery flare monitoring (SCAQMD and the BAAQMD) have not eliminated the flare monitoring requirements at sources with FGRUs. (See Note to Billings/Laurel SO_2 FIP File regarding conversations with BAAQMD, reference document OOOOO.) However, as indicated below, we are providing sources other means to determine total sulfur concentrations in the gas stream to the flare.

Additionally, we note that the ConocoPhillips refinery in Rodeo, California has installed flare flow meters and that the refinery also has a flare gas recovery system. The ConocoPhillips San Francisco Refinery's July 2007 Flare Minimization Plan (FMP), pages 3–7, indicates that flow meters have been installed on the Main and MP30 flares per the BAAQMD Regulation 12–11–501. EPA's Billings/Laurel FIP contains flare flow monitoring specifications very similar to the specifications in BAAQMD Regulation 12–11–501. The July 2007 FMP indicates ''The installation of the flow meters provides for enhanced recognition of flaring events. The flow meters help reduce flaring by providing an accurate means to measure and provide indication as to when flaring is occurring. The flow meters are especially useful for small flaring events which may not be detectable from visual flare stack monitoring only. The meters help to track and record all instances of flaring as well as giving Unit Operators immediate indication that flaring is occurring so that they can take action to reduce flaring.'' (See reference document PPPPP.)

(f) *Comment (MSCC):* The proposed 40 CFR 52.1392(h)(2)(iii) appears to be in error. The rule indicates that ''The flare gas stream volumetric flow rate shall be measured on an actual wet basis in SCFH.'' Actual wet basis would be abbreviated as ACFH. SCFH means standard cubic feet per hour, meaning that the data has been corrected to standard temperature and pressure. The SCFH could be replaced with ACFH. Alternately, the term ''actual'' could be removed from the section, leaving ''wet basis in SCFH.'' SCFH (corrected for temperature and pressure) can also be used to compute a mass emission rate of sulfur dioxide, provided that any concentration measurements of sulfur are also made on a ''wet'' basis.

Response: The commenter is correct. We are revising the regulatory text to read: ''The flare gas stream volumetric flow rate shall be measured on an actual wet basis, converted to Standard Conditions, and reported in SCFH.''

(g) *Comment (several commenters):* Several commenters express a general concern that the technology will not be able to meet the performance specifications.

Response: See responses to comments II.C.1.(a)–(c), above.

(h) *Comment (YVAS):* YVAS concurs with the proposed volumetric flow monitoring requirements.

Response: We acknowledge receipt of the supportive comment.

2. Flare Total Sulfur Analyzers

(a) *Comment (ExxonMobil, WSPA, COPC):* SCAQMD staff was not able to identify a single commercial sulfur analyzer in service on a refinery flare system. It is unreasonable for EPA to conclude that sulfur analyzer technology is either ''available'' or ''reliable.'' MSCC was not able to identify any installations where flare gas monitoring was, in fact, covering a range from 0–100% sulfur.

Response: EPA has identified two sources where analyzers are on lines leading to the refinery flare. Specifically, the Tesoro refinery in the Bay Area, California, has two Thermo Electron Tracker XP continuous H_2S analyzers. The Tesoro analyzers are dual range instruments, 0–1% and 0–5% (see reference document OOOOO). Additionally, the Shell refinery in Puget Sound, Washington, uses an analyzer that thermally oxidizes total sulfur to SO_2 and then measures the SO_2. The analyzer can measure up to 40,000 ppm of SO_2 (see reference document QQQQQ). Finally, as indicated in the response to comment II.C.2.(b) below, the SCAQMD recently reported on a pilot project study, testing a total sulfur analyzer at the BP Carson facility in southern California, and indicated that the ''preliminary results have demonstrated the feasibility of measuring total sulfur emissions from vent gases directed to flares.''

The proposed FIP did not specifically require that an analyzer be capable of measuring in the range from 1–100% sulfur, although the preamble implied and the record reported conversations with vendors indicating that analyzers could measure in the range from 1–100% sulfur. We are clarifying the final FIP to indicate that the total sulfur analyzers should measure in the range of concentrations that are normally present in the gas stream to the flare. In cases when the total sulfur analyzer is not working or where the concentration of the total sulfur exceeds the range of the monitor, methods established in the flare monitoring plan required by the FIP shall be used to determine total sulfur concentrations, which shall then be used to calculate SO_2 emissions. In quarterly reports, sources shall indicate when these other methods are used.

(b) *Comment (ExxonMobil, WSPA):* SCAQMD Rule 1118 had an important provision requiring an analyzer pilot project, and one Los Angeles area refiner is currently engaged with a sulfur analyzer demonstration project. It is conceivable that the pilot project could result in the conclusion that the analyzer being evaluated could not provide sufficient accuracy, that the system was not maintainable, or that there were other problems.

Response: On June 1, 2007, the SCAQMD presented to its Governing Board an ''Implementation Status Report for 2006 for Rule 1118—Control of Emissions from Refinery Flares.'' Agenda No. 27 discusses the total sulfur (TS) analyzer pilot project at the BP refinery in Carson and indicates:

> The TS pilot project is in the final step prior to certification of the analyzer. Although several adjustments and redesign of sampling equipment were required; [sic] preliminary results have demonstrated the feasibility of measuring total sulfur emissions from vent gases directed to flares. Based on these results, two refineries have already placed purchase orders for their TS analyzers.

In the May 15, 2007, ''Implementation Status Report for 2006 for Rule 1118—Control of Emissions From Refinery Flares,'' attached to Agenda No. 27, the SCAQMD concludes:

> Although they are behind schedule to comply with the July 1, 2007 monitoring requirements, the pilot projects are moving ahead convincingly towards completion by the end of 2007. As the rule is forcing new technologies for flare emission reporting, analyzer vendors have responded to the challenge and several options are now available, such as calorimeters, gas chromatographs, mass spectrometers and Pulsed UV Fluorescence analyzers, for continuously measuring HHV [higher heating value] and TS. Therefore, staff expects full implementation of the continuous monitoring provisions of the rule once the pilot projects are complete. Since the refineries could not meet the monitoring requirements by July 1, 2007, the refineries petitioned and were granted variances in late April 2007 by the AQMD Hearing Board to install and operate their flare monitoring systems over the next two years.

See reference document RRRRR.

Based on the above information, the total sulfur pilot project did not

conclude that the analyzer being evaluated could not provide sufficient accuracy, that the system was not maintainable, or that there were other insurmountable problems.

(c) *Comment (ExxonMobil):* EPA and industry need more time to review the SCAQMD pilot project test results and conclusions as they become available over the next few months and to determine if the technology that was tested is technically viable and whether or not a more cost effective alternative technology may be available. MSCC recommends that the implementation of total sulfur monitoring on the flares be delayed at least until the full results from the long-term program in California are available, and the capability of the market to supply and support such systems in severe weather locations such as Montana is demonstrated. At that point EPA should revise and then issue the final rule, after full stakeholder involvement in the process and full consideration of realistically available options.

Response: See responses to comments II.C.2.(a) and (b), above. Also, as noted in response to comment II.C.3.(a), below, EPA is revising the proposed FIP to allow other methods to determine total sulfur concentration in the gas stream to the flare. See response to comment II.F.1.(a) regarding the request for a stakeholder process.

(d) *Comment (ExxonMobil):* Recognizing that these total sulfur analyzer systems do not, by themselves, provide any air quality benefit, and considering that there are alternatives to continuous analyzers (e.g., individual grab samples, etc.), ExxonMobil submits that the proposed requirement to install continuous analyzers requires further evaluation in the stakeholder process.

Response: As discussed under response to comment II.C.1.(a), below, our final FIP allows other methods to determine total sulfur concentration in the gas stream going to the flare, including grab or integrated sampling methods. This should address the commenter's concerns. However, we note that whether or not total sulfur analyzer systems provide any air quality benefit by themselves is immaterial; the FIP establishes emission limits to assure that the SO_2 NAAQS are attained and maintained and it is essential that the FIP include reliable mechanisms to determine compliance with the limits. See, e.g., CAA section 110(a)(2)(F), 42 U.S.C. 7410(a)(2)(F). Finally, as we noted in our May 14, 2007, proposal to revise subpart J of the new source performance standards (NSPS), and to adopt new subpart Ja, the requirement to monitor flare emissions in the SCAQMD in fact resulted in reduced flaring (72 FR 27178, at 27195) (see reference document SSSSS).

(e) *Comment (ExxonMobil, WSPA):* Cost of installing total sulfur analyzers should be further evaluated given that the analyzers themselves do not provide an air quality benefit. Costs of total sulfur analyzer pilot project in the South Coast area expected to be in the range of 3 to 5 million dollars.

Response: See response to comment II.C.2.(d), above. Additionally, the cost of the South Coast pilot project was higher than expected because it was a pilot study and because some difficulties were encountered during the study. (See also note to Billings/Laurel SO_2 FIP File regarding conversations with SCAQMD, reference document TTTTT.)

Also, in its ''Implementation Status Report for 2006 for Rule 1118—Control of Emissions From Refinery Flares,'' May 15, 2007, the SCAQMD reported that refineries involved in the pilot projects reported that monitoring costs were estimated to be about 2 to 4.7 million dollars per flare. After looking at the breakdown of the costs, SCAQMD staff concluded that the total sulfur and higher heating value analyzer costs were comparable to staff's original estimates. However, the costs to design and build the monitoring system were significantly different. Research and development (R&D), engineering, labor/oversight, piping/electrical, analyzer shelters, and contingencies stated by the refineries represented approximately 75 to 85 percent of the flare monitoring system cost. (See reference document RRRRR.)

SCAQMD also indicated that in a related development, ExxonMobil informed staff in January 2007 that ExxonMobil was taking a different approach and was going to use a different technology, namely, gas chromatography (GC) for both the TS and the HHV analyzer; the estimated cost given to SCAQMD staff was 1 to 2 million dollars. ExxonMobil advised SCAQMD staff that similar instruments had been used at ExxonMobil's flares in Baytown, TX, and Chalmette, LA, for monitoring H_2S and the BTU content of vent gases for compliance with EPA and Texas Commission on Environmental Quality (TCEQ) regulations. (*Id.*)

(f) *Comment (CHS Inc.):* Analysis of total sulfur in a flare system is challenging because of the wide range of sulfur concentrations possible as well as the number of individual sulfur compounds potentially present. It is the understanding of CHS that there is not one commercial total sulfur analyzer in service on a refinery flare.

Response: See response to comment II.C.2.(a), above.

(g) *Comment (MSCC):* Since H_2S is believed to be the principal (overwhelming) sulfur component of candidate flares, further consideration is warranted as to whether the ''total'' sulfur component is the appropriate methodology, given the clear lack of existing equipment for the full potential range of concentrations of flare gases, and the complexity involved in continuously converting a variable mixture into a single component such as SO_2 or H_2S. EPA should evaluate whether there is a real, necessary, and significant need to require total sulfur analysis instead of allowing a somewhat simpler H_2S analysis of flare gases.

Response: The commenter has not provided any technical analyses supporting the notion that H_2S is the overwhelming component of the total sulfur in the gas stream to its flares or other flares in the area. EPA reported in the May 14, 2007, proposed new source performance standards (NSPS) for Subpart Ja (72 FR 27178, at 27194) (see reference document SSSSS) that ''based on available data, we understand that a significant portion of the sulfur in fuel gas from coking units is in the form of methyl mercaptan and other reduced sulfur compounds. These compounds will also be converted to SO_2 in the fuel gas combustion unit, which means the SO_2 emissions will be higher than the amount predicted when H_2S is the only sulfur-containing compound in the fuel gas.'' See also the response to comment II.C.2.(a), above. Therefore, in the FIP we are still requiring that the gas stream to the flare be analyzed for total sulfur.

(h) *Comment (ConocoPhillips, MSCC):* In a typical CEMS installation, the analyzers are subjected to frequent testing with gases intended to represent a ''zero'' condition and a ''span'' condition which is specified as a significant percent of full scale of the analyzer. ''Total Sulfur'' analyzers, operating over a wide range of concentrations, present some special concerns for span gases. If the proposed FIP requires high concentration analyzers, it also needs to incorporate protocols to establish calibration standards for these analyzers. ConocoPhillips indicates that flare gas sulfur concentrations can be highly variable, which makes the comparison required by the Relative Accuracy Test Audit (RATA) difficult. The sulfur analyzer captures samples in a series of periodic discrete ''grab'' samples, to be averaged over the period of total sample time. Comparison sample techniques vary, but in general involve getting a continuous sample over a period of

time, with the concentration averaged over that time period. Depending on the variability of the concentration over this time period, the average of the discrete ''grab'' samples has the potential to be different than the average of the continuous RATA sample. When the concentrations are numerically low, this difference is compounded and skews the accuracy calculations. This poses a significant risk of failing the RATA specifications, thereby voiding the monitor data and imposing a compliance issue (even if the difference is a few parts per million). ConocoPhillips believes that this requirement is not technically valid for the operations for which it is being proposed.

Response: As indicated in response to II.C.2.(b), above, the BP Pilot Project is nearing completion and expected to be a success. Also, see note to Billings/Laurel SO_2 FIP File regarding conversations with SCAQMD (reference document TTTTT). With respect to the calibration of the analyzer, SCAQMD indicated that there are several issues that need to be addressed. Specifically, one needs to assure that (1) the correct calibration gas is in the bottle, (2) the sample lines do not absorb or desorb sulfur, (3) the probe is positioned appropriately, and (4) all flow testing or other sample collection is correlated temporally with the analyzer measurements to ensure representative comparisons.

(i) *Comment (ExxonMobil):* EPA recognized the impracticality of concentration monitoring for flares during the recent Consent Decree negotiations. CEMS were deemed unnecessary and impractical for flares, unless the flare was in continuous use.

Response: The basis for the FIP is different than the consent decrees. The FIP assures attainment of the SO_2 NAAQS, a health-based standard, and the consent decrees assure that the new source performance standards (NSPS), technology-based standards, are met. Because of these differences, we believe it is appropriate to take a different approach.

We disagree with the commenter's statement that ''EPA recognized the impracticality of concentration monitoring for flares during the recent Consent Decree negotiations. CEMS were deemed unnecessary and impractical for flares.'' The CDs required that compliance with 40 CFR 60.104(a) be determined by several options, one of which was to install and operate a CEMS per 40 CFR supbart J (e.g. see paragraph 77 of CHS Inc.'s CD, reference document JJJJJ):

77. All continuous or intermittent, routinely-generated refinery fuel gas streams that are routed to the flare header at Cenex shall be equipped with a CEMS as required by 40 CFR § 60.105(a)(4) or with a parametric monitoring system approved by EPA as an alternative monitoring plan (''AMP'') under 40 CFR § 60.13(i), at the combined juncture prior to the flare. Cenex shall comply with the reporting requirements of 40 CFR Part 60, Subpart J, for the Refinery Flare.

We also note that the proposed NSPS Subpart Ja includes a total sulfur standard and CEMS requirements for fuel gas combustion devices, which are defined to include flares. (See 72 FR 27178 (May 14, 2007), reference document SSSSS.)

(j) *Comment (MSCC):* MSCC is aware that it may be possible to use gas chromatography systems to attempt to meet the proposed FIP requirements. Due to time constraints, they were not able to investigate this subject thoroughly.

Response: As indicated in response to II.C.2.(e), ExxonMobil reported to the SCAQMD that it is using gas chromatography for its total sulfur and higher heating value analyzers. ExxonMobil has advised SCAQMD staff that similar instruments have been used on its flares in Baytown, TX, and Chalmette, LA, for monitoring H_2S and the BTU content of vent gases for compliance with EPA and Texas Commission on Environmental Quality (TCEQ) regulations. (See reference document RRRRR.) Also, see note to Billings/Laurel SO_2 FIP File regarding conversations with SCAQMD (reference document TTTTT).

(k) *Comment (several commenters):* A general concern is expressed that the technology is not there to meet performance specifications.

Response: See responses to above comments II.C.2.(a) and (b).

(l) *Comment (YVAS):* YVAS concurs that total sulphur concentrations and not just H_2S be monitored.

Response: We acknowledge receipt of the comment and the support for our proposal.

3. Miscellaneous Flare Monitoring Concerns

(a) *Comment (COPC, CHS Inc., MSCC):* The proposed FIP should allow for Alternative Monitoring Plans (AMPs) to determine compliance. ConocoPhillips argued that AMPs are technically sound data gathering plans that are developed based on site-specific factors. These AMPs allow a facility to comply based on equivalent but customized criteria. CHS Inc. claimed that uncertainty of the monitoring capabilities and the quality assurance/quality control requirements makes it reasonable for EPA to allow for AMPs similar to other EPA regulations. MSCC indicated that it calculates and reports the amount of SO_2 emitted during each flaring event based on the recent content, and estimated flow gas(es) flared, based on reasonable technical judgment and indirect metering calculations. MSCC asserted that EPA has failed to show any significant errors or omissions with these methods.

Response: EPA is revising the proposed FIP to allow other methods to determine total sulfur concentration in the gas stream going to the flare. The other methods allow sources to use grab or integrated sampling, followed by sample analysis, to determine total sulfur concentration of the gas stream going to the flare. These grab and integrated sampling methods are currently allowed in the BAAQMD rule (see reference document LL), and similar methods have been allowed by the SCAQMD. Two of the refinery companies (ConocoPhillips and ExxonMobil) in the Billings area also have refineries in the Bay Area and/or the South Coast Area and should be familiar with these manual methods.

Specifically, we are revising the rule to indicate that the total sulfur concentration of the gas stream going to the flare can be determined by: (1) A total sulfur concentration monitoring system as we proposed on July 12, 2006, and including the changes we have identified here; or (2) grab sampling or integrated sampling.

If a source chooses to use the grab or integrated sampling methods, the requirement to obtain a grab or integrated sample will be triggered if the velocity of the gas stream to the flare in any consecutive 15-minute period continuously exceeds 0.5 feet per second (fps) and shall continue until the flow rate of the gas stream to the flare in any consecutive 15-minute period is continuously 0.5 fps or less. Additionally, the rule indicates that a grab or integrated sample will not be required if any water seal monitoring device indicates that flow is not going to the flare. See discussion in response to comment II.C.1.(c). Under these conditions, if the water seal monitoring device indicates that there is no flow going to the flare, yet the continuous flow monitor indicates flow, the presumption will be that no flow is going to the flare.

For grab sampling, a sample shall be collected within 15 minutes after the triggering conditions occur (see above), and the sampling frequency, thereafter, shall be one sample every 3 hours. For integrated sampling, a sample shall be

collected within 15 minutes after the triggering conditions occur (see above), and the sampling frequency, thereafter, shall consist of a minimum of 1 aliquot for each 15-minute period until the sample container is full, or until the end of a 3-hour period is reached, whichever comes sooner. Within 30 minutes thereafter, a new sample container shall be placed in service. For grab and integrated sampling, sampling shall continue until sampling is no longer required (see above).

Samples obtained by either grab or integrated sampling shall be analyzed for total sulfur concentration using ASTM Method D4468–85 (Reapproved 2000) ''Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry'' (see reference document MMMMMM); ASTM Method D5504–01 (Reapproved 2006) ''Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence'' (reference document NNNNNN); or 40 CFR part 60, Appendix A–5, Method 15A ''Determination of Total Reduced Sulfur Emissions From the Sulfur Recovery Plants in Petroleum Refineries.'' Total sulfur concentration shall be reported as H_2S or SO_2 in ppm. Proper QA/QC procedures shall be used to assure that the samples are obtained and analyzed appropriately.

We chose the trigger level for two reasons. First, the rule indicates that the minimum detectable velocity of the flow monitoring device(s) shall be 0.1 fps and the flow monitoring devices shall continuously measure the range of flows corresponding to 0.5 to 275 fps. Since 0.5 fps is the minimum flow measure required, it is a reasonable trigger level to ensure protectiveness. Second, flow monitoring software averages all the readings in a 15-minute timeframe and records/reports the average flow. Using the minimum recorded/reported timeframe is reasonable to ensure protectiveness.

With respect to using estimations, technical judgment, and indirect metering to calculate emissions from the flare, because this FIP is designed to protect the NAAQS, we are choosing to require real-time direct monitoring methods to determine emissions. We do not believe estimations, technical judgments, and indirect metering are adequate substitutes for real-time monitoring for purposes of the FIP.

(b) *Comment (ExxonMobil, WSPA, COPC, CHS Inc., MSCC):* The proposed requirement for a facility to install, commission, and calibrate flow monitoring systems and continuous sulfur analyzer systems within 180 days after receiving EPA approval of a monitoring plan is a requirement that would simply be impossible to meet.

Response: Based on the comments received, we have revised the FIP to allow 365 days, rather than 180 days, after EPA approval of the flare monitoring plan to install continuous flow monitors and to begin determining total sulfur concentrations on the gas stream to the flare. Based on conversations with an ultrasonic flow monitor manufacturer, BAAQMD, and SCAQMD (see reference documents MMMMM, OOOOO, and TTTTT, respectively), we believe this additional time is reasonable to install continuous flow monitors and total sulfur analyzers or to initiate grab or integrated sampling.

(c) *Comment (MSCC, ExxonMobil):* The FIP implies that pilot and purge gas must be monitored. Pilot and purge gas lines are separate from the main header vent gas lines. Monitoring these other relatively small gas flows to the flare is a waste of effort and resources. The pilot gas is usually a small natural gas stream of low flow and essentially zero sulfur content. The small purge gas line usually is natural gas, refinery fuel gas, or inert gas such as carbon dioxide or nitrogen, or mixtures of such gases with air or steam. In either case, the flow is not high and usually ExxonMobil does not expect high sulfur content. These two stream types (pilot gas, purge gas) cannot physically be mixed with the main vent gas stream for measurement of flow and sulfur content by one set of monitors, without defeating their essential purposes of safety. Given the nature of the pilot gas and purge gas streams, it is not reasonable to require flow and sulfur monitors which meet the proposed FIP specs on these streams. Regulations from other areas allow the flow and sulfur content of pilot and purge gas to be estimated/monitored by other devices or sampling means. It is recommended that the proposed FIP language be re-written to clearly exempt pilot gases and purge line gases from the proposed FIP monitoring requirements. Neither can reasonably be considered as a significant source of sulfur dioxide. ExxonMobil asserted that EPA's proposed FIP requirement for the Billings/Laurel area is neither reasonable nor legally supportable.

Response: In conversations with the SCAQMD, we learned that in some instances they had seen copious emissions due to flare pilot and purge gas (see reference document TTTTT). SCAQMD indicated, as do the commenters above, that in some cases refinery fuel gas is used as a purge gas. Refinery fuel gas can have high sulfur content. Because of the potential for SO_2 emissions from the burning of pilot and purge gas, we believe it is necessary to account for these emissions and include them when determining the total emissions from the flare.

We agree that the proposed FIP implied that the pilot and purge gas should be monitored by the analyzers on the flare line used to measure flow and concentration of the gas stream to the flare. We are revising the FIP to require flow and H_2S concentration monitoring of the pilot and purge gas as one possible method to determine sulfur dioxide emissions from the burning of such gas in the flare. However, the FIP allows sources to forego monitoring if certain requirements are met. First, if facilities certify that only natural gas or an inert gas is used for the pilot and/or purge gas, then the gas does not need to be monitored. Second, if facilities can measure other parameters so that volumetric flows, expressed in SCFH, of pilot and purge gas can be calculated (based on the design and the parameters), then the flows do not need to be monitored. Third, if the H_2S concentration of the pilot or purge gas can be determined through other methods, then the H_2S concentration does not need to be monitored. Once flow and H_2S concentration of the pilot and purge gas are determined, sources must then calculate the SO_2 emissions from the pilot and purge gas. The calculated SO_2 emissions will then be added to the other SO_2 emissions from the flare to determine compliance with the flare SO_2 emission limits. Also, we are revising the reporting requirements to require sources to: (1) Certify in the quarterly reports if pilot or purge gas is not monitored because only natural gas or an inert gas is used as the pilot and/or purge gas; or (2) report flow and H_2S concentration of the pilot and/or purge gas and the resultant SO_2 emissions.

(d) *Comment (MSCC):* Flow and concentration monitoring would be costly and there is no justification for such costs and complexity given that the area is in attainment for the NAAQS.

Response: See response to comments II.C.2.(d) and II.C.3.(c), above.

(e) *Comment (YVAS):* YVAS concurs that each source submit for EPA review a quality assurance and quality control plan for each of the continuous monitors.

Response: We acknowledge receipt of the comment and the support for our proposal.

D. Flare Limits

1. Concerns With Flare Emission Limit

(a) *Comment (CHS Inc, MSCC):* The proposed flaring limit of 150 lbs SO_2/3 hour period was used in the model to represent routine flaring and background SO_2 concentrations. This threshold was never intended to and did not account for malfunctions, startups, or shutdowns.

Response: The FIP fills the gap for the provisions of the SIP that were disapproved. In its attainment demonstration modeling, the State modeled emissions from flares at 150 lbs of SO_2/3-hour period, yet the SIP did not contain corresponding emission limits for the flares. This was the basis for our disapproval of part of the SIP. We believe we have appropriately addressed malfunction, startup, and shutdown in this final rule. See section II.D.3., below.

Certain assumptions were made in the State's attainment demonstration for the Billings/Laurel SO_2 SIP. Included in the assumptions was that flares had routine emissions of 150 lbs of SO_2/3-hour period. To assure attainment and maintenance of the NAAQS, the SIP or a FIP must contain enforceable emission limits on the flares. This is fully explained in our proposed action on the Billings/Laurel SO_2 SIP (64 FR 40791, 40801, July 28, 1999) and in the response to comments contained in our final action on the Billings/Laurel SO_2 SIP (67 FR 22168, 22179, May 2, 2002).

The State of Montana has flare provisions that apply to CHS Inc., ConocoPhillips, ExxonMobil, and MSCC. See CHS Inc.'s, ConocoPhillips', ExxonMobil's, and MSCC's exhibit A–1, adopted by the Montana Board of Environmental Review on June 12, 1998 (reference documents QQQQQQ, PPPPPP, UUUUU, and OOOOOO). Exhibit A–1 contains additional State requirements that were *not* submitted for inclusion in the SO_2 SIP. Among these is an emission limit on flares of 150 lbs of SO_2/3-hour period, the value the State relied on to model attainment. These flare provisions do not and would not satisfy the SIP/FIP requirements of the CAA for two reasons. First, they were never submitted to EPA to be included as part of the SIP. Second, the flare provisions contain automatic exemptions for malfunction, startup, and shutdown. This is inconsistent with EPA's longstanding interpretation of the CAA, which is that, since SIPs must provide for attainment and maintenance of the NAAQS and the achievement of the PSD increments, all periods of excess emission must be considered violations. Accordingly, any provision that allows for an automatic exemption for excess emission is prohibited.[8]

(b) *Comment (NEDA/CAP, MSCC, ExxonMobil):* The capriciousness of EPA's proposed FIP provision affecting flaring is that EPA recognizes in the proposed notice that sources likely will be unable to comply with the continuous flaring emission limitations. Yet the proposed FIP would allow citizens to bring actions for violations of unattainable limits when EPA or the State likely would choose to exercise its prosecutorial discretion. Such a regulatory ''Catch-22'' is both unreasonable and unlawful.

Response: We respectfully disagree with the commenter. First, in our proposal we did not say that sources will be unable to comply with the continuous flaring emission limitations. We note that, after receiving the refineries' estimates of routine flare emissions, the State established as a State-only limit the same numerical flare limit we are adopting, and the refineries and MSCC agreed to the stipulations containing those limits. See 67 FR 22180, col. 2, May 2, 2002, and reference documents UUUUU, OOOOOO, PPPPPP, QQQQQQ, and SSSSSS. Also, at the time of our SIP action, Conoco indicated to us that routine emissions from its flare were expected to be less than 150 lbs SO_2/3-hour period. See 67 FR 22180, col. 2, May 2, 2002, and reference document RRRRRR. Based on this information, we have concluded that the refineries and MSCC will be able to comply with the 150 lbs SO_2/3-hour flare limit under normal operating conditions.

We did say in our proposal that we recognize flares are sometimes used as emergency devices and that it may be difficult to comply with the flare limits during malfunctions. *See* 71 FR 39264, col. 1, July 12, 2006. However, contrary to the commenters' assertions, our decision to require an emission limit that may be difficult to meet under certain conditions is not capricious, unreasonable, or unlawful.

There is often a conflict, which is not limited to refinery flare emissions, between a source's ability to control emissions during certain operating conditions and the CAA's requirement to attain and protect the NAAQS. Our fundamental responsibility under the CAA with respect to SIPs/FIPs, however, is to ensure the NAAQS are attained and other CAA requirements are met. See CAA sections 110(a) and (l), 42 U.S.C. 7410(a) and (l); reference document RRR, September 20, 1999, memorandum titled ''State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown,'' from Steven A. Herman and Robert Perciasepe, to Regional Administrators (hereafter ''1999 excess emissions memorandum''); *City of Santa Rosa* v. *EPA,* 534 F.2d 150, 155 (9th Cir. 1976), vacated on other grounds, 429 U.S. 990 (1976). Thus, we have long held that outright or ''automatic'' exemptions from emission limits needed to demonstrate attainment of the NAAQS are not appropriate, something we indicated in our proposed FIP. See our 1999 excess emissions memorandum, reference document RRR, and our proposed FIP, 71 FR 39264, col. 1, July 12, 2006. Our interpretation on this issue has been upheld by the U.S. Court of Appeals for the 6th Circuit: in a 2000 decision, the Court rejected a challenge to EPA's disapproval of a Michigan SIP revision that provided an automatic exemption from SIP limits during malfunction, startup, and shutdown periods. *Michigan Department of Environmental Quality* v. *EPA,* 230 F.3d 181 (6th Cir. 2000).

As we explained as long ago as 1977, the appropriate approach in SIPs/FIPs is to require continuous compliance in order to create an incentive for sources to properly operate and maintain their facilities and to improve their operation and maintenance practices over time. *See, e.g.*, 42 FR 21472, April 27, 1977 (reference document VVVVV), and 42 FR 58171, November 8, 1977 (reference document WWWWW). We explained that an automatic exemption would encourage the source to claim after every period of excess emissions that the exemption applied, and that instead the proper means to provide relief to sources was through the exercise of enforcement discretion in appropriate circumstances. *Id.*

Later, in 1999, we indicated that states could include in their SIPs, as an alternative to the enforcement discretion approach, narrowly tailored affirmative defense provisions to address source difficulties meeting emission limits during malfunction, startup, and shutdown periods. See reference document RRR, our 1999 excess emissions memorandum. In this 1999 memorandum we reiterated our long-held view that, ''because excess emissions might aggravate air quality so as to prevent attainment or interfere with maintenance of the ambient air quality standards, EPA views all excess emissions as violations of applicable emission limitation[s].'' We also

[8] *See* reference document RRR, September 20, 1999, memorandum entitled ''State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown.''

repeated our recognition that some malfunctions may be unavoidable.

Thus, while flares may have unique characteristics, the underlying conflict between the ability to comply and need to meet the NAAQS is the same. We do not believe the nature of the emission point should dictate a different approach to protection of the NAAQS. Whether considering stack emissions at a power plant or other source, or flare emissions at a refinery, the SIP/FIP should be structured to provide the source with the incentive to properly design, operate, and maintain its facility. An outright exemption from the emission limits would not do this.

To provide relief to the sources for truly unavoidable violations, while still maintaining appropriate incentives for compliance, we are providing an affirmative defense to penalties for violations of flare limits during malfunctions, startups, and shutdowns. The elements of the defense, which a source would have to prove in court or before an administrative judge, are enumerated in our final rule and are consistent with the elements described in our 1999 excess emissions memorandum. The gist of these elements is that a source must take all possible steps to prevent exceedances of the limits and to minimize the amount, duration, and impact of those exceedances. These same or similar criteria have been adopted by other regulatory agencies, including the State of Colorado and Maricopa County, Arizona, in excess emissions rules. See, e.g., Colorado Air Quality Control Commission Common Provisions Regulation, 5 CCR 1001–2, Sections II.E. and J. (reference document TTTTTT); Maricopa County Air Pollution Control Rules, Rule 140, ''Excess Emissions'', Section 400 (reference document ZZZZZ).

Finally, we reject commenters' assertion that citizens will necessarily pursue enforcement where the State and EPA do not, but in any event, this possibility is inherent in the structure of the CAA; Congress provided citizens with the ability to enforce SIPs and FIPs. This inherent structure is not a reason for us in this rulemaking action to change our longstanding interpretations regarding the proper treatment of excess emissions.

(c) *Comment (NEDA/CAP):* Industry contends that it is virtually impossible to meet the proposed limits during flaring, since flares themselves are not process units when they are treating excess gases during malfunction events. EPA has presented no information in this notice or elsewhere to the contrary. On this basis alone, if the mass emission limits for flares are not made less stringent, the FIP must recognize in its final action that flares must be available for use during malfunctions and emergencies to protect the safety of employees and the public, as well as equipment integrity, regardless of the mass emission rate of the time.

Response: The FIP is not intended to jeopardize the safety of refineries, their workers, or neighbors. Our SIP policy [9] has long recognized that imposing penalties for violations of emission limitations for sudden and unavoidable malfunctions caused by circumstances entirely beyond the control of the owner or operator may not be appropriate. States, EPA, and citizens have the ability to exercise enforcement discretion to refrain from taking enforcement action in these circumstances. In addition, EPA has revised the FIP to provide sources with the ability to assert an affirmative defense to penalties for violations of flare limits during malfunction, startup, and shutdown. However, while we recognize some violations may be unavoidable, we also believe that sources have a responsibility to do their best to achieve continuous compliance and to minimize the number, duration, and severity of malfunctions and other events leading to *excess emissions*.

(d) *Comment (MSCC):* Various jurisdictions have attempted to address flare emissions. There is no uniform federal requirement or regulation requiring such limits or monitoring, particularly for short term limits, or for malfunction, startup, and shutdown controls. It is difficult to understand any reason that the Montana SIP for Billings/Laurel is ''substantially inadequate'' regarding flaring or for proposing restrictions going far beyond those in effect in any jurisdiction or federal rule.

Response: Regardless of what other areas are doing with respect to flare emissions, we must fulfill our responsibility to fill the gaps of the provisions of the SIP that we disapproved. Each area must be addressed on a case-by-case basis. The response to comment II.D.1.(a) and our notice of proposed rulemaking express why we believe the FIP should contain emission limits for flares in the Billings/Laurel area. Regarding the comment about substantial inadequacy, please see our response to comment II.B.2.(a), above.

[9] *See* reference document RRR, September 20, 1999, memorandum entitled ''State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown.''

(e) *Comment (MSCC):* There is no reasonable basis to believe that flaring, as practiced in this air-shed, prevents attainment and maintenance of NAAQS, or that it is inadequately regulated, or that it has an impact on health, welfare, or commerce among states, as years of experience confirm. The State of Montana flare provisions are adequate. No federal action is needed.

Response: This comment goes to the validity of our SIP action and is not relevant here. See our response to comment II.B.2.(a), above.

(f) *Comment (MDEQ):* Imposing a mass-based emission limit (and the necessary and ancillary requirements for measuring flows and concentration) on a flare increases the regulatory workload while providing a marginal benefit. Currently, Montana's Malfunction rule (ARM 17.8.110) provides Montana with enforcement discretion during malfunction events.

Response: We note that the State has mass-based emission limits on the flares in the Billings/Laurel SO_2 area. See CHS Inc.'s, ConocoPhillips', ExxonMobil's, and MSCC's exhibit A–1, adopted by the Montana Board of Environmental Review on June 12, 1998 (reference documents QQQQQQ, PPPPPP, UUUUU, and OOOOOO). Exhibit A–1 contains State requirements that were *not* submitted for inclusion in the SO_2 SIP. The provisions of exhibit A–1 also appear in the sources' Title V permits and are labeled as State-only provisions. See, for example, ConocoPhillips' Title V permit (see reference document XXXXX).

The exhibit A–1 requirements indicate that the facilities shall not allow SO_2 emissions from any flare, unless the emissions are a minor flaring event (defined as less than or equal to 150 pounds per 3-hour period), or the result of start-up, shutdown, or a malfunction. Exhibit A–1 does not indicate how compliance with the emission limit is determined and only requires reporting of flare emissions that are not minor flaring events.

Presumably, the additional workload provided by the FIP, that the State is referring to, is in evaluating the continuous analyzers and receiving quarterly reports. We believe the additional workload is warranted and necessary to determine compliance with the flare emission limits and assure that the SO_2 NAAQS will be attained and maintained. See, e.g., CAA sections 110(a)(2)(A), (C), and (F), 42 U.S.C. 7410(a)(2)(A), (C), and (F).

We do not understand the intent of the comment that indicates MDEQ has enforcement discretion under its malfunction rule in ARM 17.8.110

(reference document YYYYY). Before MDEQ could decide whether or not to pursue an enforcement action for violations of the State-only flare limit, MDEQ would need to evaluate information submitted by sources.

Additionally, we note that in response to our proposed action on the Billings/Laurel SIP, the State said the following: ''The State agrees with EPA that the SIP is incomplete without enforceable emission limitations applicable to flares, and that such limitations should correspond to the emission rates used in the attainment demonstrations. However, after significant effort to address the issue, the State was unable to find a workable solution that would meet EPA's concerns.'' See document #IV.A–23, comment #3, from docket #R8–99–01; 67 FR 22183, col. 1, May 2, 2002; and reference document ZZZZZZ.

(g) *Comment (YVAS):* YVAS concurs with EPA's further assumption (page 39264), that ''the 3-hour SO_2 NAAQS would be attained'' if ''the limit for the main flares was established at 500 pounds of SO_2 per calendar day.'' Since there is apparently precedent (as noted on page 39263 FR) ''contained in settlements between the United States and CHS Inc, ConocoPhillips and ExxonMobil,'' YVAS further agrees to and accepts EPA's reasoning that ''the 500 pound value for this FIP (should) be imposed as an enforceable limit and not just a trigger point for further analysis'' as a starting point. However, the ''500 lbs per day limit,'' if extended for any length of time, is not acceptable. Based on acquired information, YVAS does not think this limit would be punitive, nor would it be impossible for industry sources to attain. It is accepted that zero emissions may not be possible or attainable, but any lower emissions rate would be a public benefit. And, although a compliance drop could create greater industry noncompliance and require more enforcement action, YVAS does not believe the more stringent standards would create more noncompliance problems for the sources.

Response: We have decided to retain the proposed limit of 150 lbs of SO_2/3-hour period. A more stringent limit than either proposed is unnecessary to ensure attainment of the NAAQS. Thus, we believe it is reasonable not to impose a more stringent limit as the commenter suggests.

(h) *Comment (Citizen):* The proposed rule should not be adopted unless recognized medical opinion concerning the cumulative health risks of the release of 500 lbs per day of sulphur dioxide into the area's airshed is analyzed. Specifically, what justification criteria are being used to establish the 500 lb. minimum per day base in the Proposed Rule. And, as noted on page 39264 of the **Federal Register** dated July 12 announcing the FIP, EPA says ''if we adopted the 500 pound value in this FIP, we would impose it as an enforceable emission limit.'' If there are still questions concerning the 500 lb per day emission limit, why is it being proposed? Is there a lower and perhaps ''better'' emission limit per day that should be considered?

Response: The current SO_2 NAAQS were set to protect public health and welfare after consideration of various scientific data. It is not our role here to re-evaluate the NAAQS, but to ensure they are met. Through modeling we determined that both limits would protect the SO_2 NAAQS. While a lower limit might be attractive, we are setting the limits at 150 lbs of SO_2/3-hour period, a level sufficient to meet the SO_2 NAAQS; we think this is reasonable. See response to comment II.A.2.(b). See also our response to comments pertaining to SO_2 NAAQS and SO_2 Health Effects (II.F.9. and 10., respectively) below.

(i) *Comment (MDEQ):* MDEQ believes that hard cap emission limits on flares are good but believes that the flare emission limits will be more accepted if malfunction, startup, and shutdown exemptions are introduced.

Response: We acknowledge MDEQ's support for hard cap emission limits on flares. Regarding exemptions for malfunction, startup, and shutdown, see our responses to comments II.D.1.(b) and (c), above.

As indicated above, to address industry concerns regarding malfunctions, startup, and shutdown, we are revising the FIP to provide sources the ability to assert an affirmative defense to penalties for violations of flare limits during malfunction, startup, and shutdown.

2. Safety Device

(a) *Comment (CHS Inc., WETA, MPA, NPRA):* From a safety standpoint, there are concerns with flare limits applying at all times, including malfunction, startup, and shutdown. Flares are primarily safety devices, designed as a means to ensure the safety of employees and the community and to maintain the integrity of refinery equipment during situations that are not representative of normal operations. It will be precedent setting if the EPA views these infrequent events as enforcement situations. It would, in essence, require facilities to choose between maintaining a safe, controlled refinery and violating the FIP.

Response: See responses to comments II.D.1.(b) and (c), above. As we indicate in our response to comment II.D.1.(c), the FIP is not intended to jeopardize the safety of refineries, their workers, or the community. However, we believe it would be inconsistent with CAA sections 110(a) and (l) to provide an outright exemption from the flare limits during malfunction, startup, and shutdown periods. Instead, to provide some measure of relief to the sources, we have included an affirmative defense to penalties in our final FIP rule. If a source takes steps consistent with the elements of the affirmative defense, excess flaring emissions during malfunction, startup, and shutdown periods would not be penalized. We have considered several additional factors: First, historically, the sources have used the flares as part of their routine operations, i.e., in non-emergency conditions. See September 28, 1995, letter from Bob Raisch to Douglas Skie (reference document SSSSSS); 67 FR 22180, col. 2, May 2, 2002. Also, in its comments on the FIP (reference document QQQQ), CHS Inc. indicated that the 150 lbs/3-hour value was used in the original model to represent routine flaring and background SO_2 concentrations. MSCC indicated in its comments on the FIP (reference document WWWW) that flares can be used for handling streams other than those arising from malfunction, startup, and shutdown. Second, flaring events have not necessarily been as infrequent as the commenter implies. From the first quarter of 2005 through the second quarter of 2007, source reports indicate that MSCC and the 3 refineries experienced over 150 flaring events with SO_2 emissions greater than 150 pounds over 3 hours. See reference document HHHHHH. Third, the emissions during these events can be very high—the State estimated that emissions during malfunctions could be as high as 6,000 pounds/3-hour period, and the sources' own reports for first quarter 2005 through second quarter 2007 reflect emissions as high as 12,400 pounds over a 2-hour period. See reference documents SSSSSS and HHHHHH. The maximum value reported for a flaring event during the period was 40,800 pounds of SO_2 over an unknown duration, and there were numerous events in the thousands of pounds. See reference document HHHHHH. Fourth, we want to ensure that the owners/operators design, operate, and maintain their facilities to minimize flare emissions by minimizing the conditions that lead to malfunctions,

startups, and shutdowns. In the FIP context, the appropriate way to do this is by establishing a flare emission limit that is not subject to outright exemptions. Fifth, the State and EPA have already viewed these events as enforcement situations in the context of the refinery initiative and, through the consent decrees, have created the expectation that the refineries will minimize flare emissions. We explain in this preamble why the conditions of the consent decrees, while beneficial, are not sufficient for purposes of the FIP. See, e.g., responses to comments II.A.2.(b), II.D.4., and II.E.1.(e). We also note that MSCC is not subject to a consent decree. Finally, the air does not care whether emissions come out of a flare that is used as a safety device at a refinery or a stack at a power plant or other facility.[10] In both cases, the emissions of SO_2 impact air quality, and EPA's charge is to address those impacts so as to protect the NAAQS.

(b) *Comment (WSPA, MSCC, ExxonMobil):* EPA proposes that flare limits apply at all times without exception. It would be virtually impossible to comply with SOx mass emission limits at all times and for all malfunctions for the simple reason that the primary function of a refinery flare is to serve as a safety device. Flares must be available for use during malfunctions and emergencies to protect equipment and the safety of employees and the public.

Response: See responses to comments II.D.1.(b) and (c), and II.D.2.(a), above.

(c) *Comment (NPRA):* The U.S. Chemical Safety Board (CSB) urges the installation of flares. The CSB sites flares as a ''safer alternative'' when compared to other techniques. Clearly the CSB recommendation is at odds with Agency's proposal.

Response: See responses to comments II.D.1.(b) and (c), and II.D.2.(a), above. Also, we do not believe our action is at odds with the CSB's recommendations. In this action, we are not opining on the use of flares versus other techniques. We are not telling the refineries or MSCC to stop using their flares. However, flares are an emission point at the refineries and MSCC, they have been the source of routine emissions historically, and they can be the source of very large quantities of emissions in a short period of time. We believe it is necessary and appropriate to impose limits on the flare emissions to fill one of the gaps in the SIP, to support our attainment demonstration, and to create appropriate incentives for the sources in the design, operation, and maintenance of their facilities.

3. Malfunction, Startup, and Shutdown

(a) *Comment (WSPA, MSCC, ExxonMobil):* In working with the South Coast Air Quality Management District, they were careful not to compromise safety by restricting, either explicitly or implicitly, the use of flares during emergencies through the imposition of mass emission limits or otherwise.

Response: See responses to comments II.D.1.(b) and (c), and II.D.2.(a), above. Our FIP does not require or direct the sources to not use their flares during emergencies. Unlike the South Coast or Bay Area,[11] however, we are required to promulgate a FIP that demonstrates attainment of the SO_2 NAAQS. Consequently, it is necessary and appropriate that we impose emission limits on the flares that are consistent with our modeled attainment demonstration. To address industry concerns, we are providing an affirmative defense to penalties for excess flare emissions during malfunction, startup, and shutdown periods.

We note that SCAQMD's rule 1118(d) imposes annual SO_2 performance targets for flare emissions (caps on the amount of SO_2 emitted from flares in one year). The performance targets are based on the crude processing capacity and become more stringent over time. Malfunction, startup, and shutdown emissions count towards the annual performance targets unless they meet certain narrowly defined exemptions in rule 1118(k). Sources that exceed their annual performance targets must submit a flare minimization plan and are subject to mitigation fees of up to four million dollars a year (see reference document CCC).

(b) *Comment (WSPA, MSCC, ExxonMobil):* It is essential for EPA to recognize the true nature of malfunctions at refineries, and the fact that there is no practical way to regulate the release of vent gases during malfunctions, or, to treat the emergency vent gases to remove sulfur compounds prior to combustion in the flare.

Response: See responses to comments II.D.1.(b) and (c), II.D.2.(a), and II.D.3.(a), above. Also, we understand that while a malfunction is underway, it may be impossible to treat the gases prior to combustion in the flare. However, we do not agree that all malfunctions are categorically unavoidable. We are concerned with the causes leading to the malfunctions and the steps taken after the malfunction begins to mitigate its effects. We are promulgating an affirmative defense provision along with the flare emission limits that should ensure sources take all steps within their control to avoid malfunctions and minimize their impacts on air quality once they occur. We believe this is reasonable and appropriate to ensure protection of the NAAQS.

(c) *Comment (WETA):* Pursuing the adoption of this FIP could potentially result in the setting of an inconsistent national policy for malfunction, startup, and shutdown.

Response: We do not agree with the comment. The FIP would not be setting inconsistent national policy for malfunction, startup, and shutdown occurrences. To the contrary, we are following our national policy with respect to malfunctions, startup, and shutdown as expressed in the 1999 excess emissions memorandum (see reference document RRR).

(d) *Comment (MSCC):* MSCC believes that the approach taken by the State of Montana in providing for minimization of flaring, above a reasonably determined de minimis threshold, and clear exceptions for malfunctions, startup, shutdowns and other operational needs is the sound approach, to address the reality that there are, and will be situations such as malfunctions, startups, and shutdowns and emergencies that are beyond the reasonable control of a source, in the operation of flares.

Response: We recognize there may be violations of flare emission limits during malfunctions, startups, shutdowns, and emergencies that are beyond the control of a source; accordingly, we are providing sources with the ability to assert an affirmative defense to penalties for violations of flare limits that occur during malfunction, startup, and shutdown periods. We believe this is a reasonable approach, consistent with our views that automatic exemptions are not appropriate for emission limits relied on

[10] In theory, a smokestack could also be characterized as a safety device; among other things, a stack is used to prevent harmful ground level concentrations of pollutants. In addition, gases are sometimes bypassed around control devices directly to the stack to avoid damage to control devices and/or other dangerous conditions. In the SIP/FIP context, we do not believe it is appropriate to automatically exempt these stack emissions, even though the stack may serve a safety purpose. See our 1999 excess emissions memorandum, reference document RRR.

[11] The Bay Area prohibits all refinery flaring unless the flaring is consistent with a flare minimization plan or is caused by an emergency. See BAAQMD rule 12–12–301 (reference document AAAAAAA). The South Coast rule requires minimization of flaring and prohibits combustion of vent gas in the flare except during emergencies, shutdowns, startups, turnarounds or essential operational needs. See SCAQMD rule 1118(c)(4) (reference document CCC).

to demonstrate attainment of the NAAQS.

(e) *Comment (COPC):* The rule as written will ultimately put ConocoPhillips in the position of having to choose between compliance with an environmental regulation and maintaining safe operating conditions. This is an untenable position which can be avoided by acknowledging in rule language that flare SO_2 emissions can occur during periods of malfunction, startup, and shutdown, provided that accepted management systems are followed.

Response: See responses to comments II.D.1.(b) and (c), and II.D.2.(a), above. We believe the provision of the affirmative defense to penalties for excess emissions during malfunction, startup, and shutdown periods appropriately and reasonably addresses the commenter's concerns.

(f) *Comment (COPC):* A FIP program that adopts the same evaluation procedures for malfunctions, startups, and shutdowns for flares is preferred to a fiction that a facility can maintain a flare emission limit in all malfunction, startup, or shutdown events regardless of size or magnitude.

Response: See response to comments II.D.3.(a), (b), (c), (d), and (e), above.

(g) *Comment (YVAS):* Specific to flaring emergencies by the sources, any added controls on flaring to protect the public (from SO_2 exceedences) is essential and is common sense.

Response: We acknowledge the comment and support for our proposal.

4. Subject to NSPS

Comment (CHS Inc.) It should be noted that the CHS refinery flare is subject to NSPS Subpart J as a result of the consent decree. This limits the H_2S content of the routine refinery fuel gas streams routed to the flare and requires monitoring to demonstrate compliance with the limit.

Response: As indicated by the commenter, the consent decree limits the H_2S content of the routine refinery fuel gas streams routed to the flare. However, there are several reasons why the H_2S ppm limit alone is not sufficient to support the FIP's attainment demonstration.

First, flow information is needed to translate H_2S ppm values into pounds of SO_2 for a given period of time. Flow rates to the flares can vary widely. Without knowing potential worst-case flows to the flare, we cannot determine whether the consent decree H_2S ppm limit would assure compliance with the FIP 150 pounds of SO_2/3-hour limit at the 3 refineries. Therefore, we cannot conclude that the consent decree H_2S limit, even absent the additional concerns we discuss below, would assure attainment of the SO_2 NAAQS.

Second, during certain situations, as indicated in 40 CFR 60.8(c) and 60.104(a)(1), the H_2S limit does not apply. Specifically, the consent decree indicates that the CHS Inc. refinery flare is an affected facility under 40 CFR part 60, subparts A and J for fuel gas combustion devices and that fuel gases combusted in the refinery flare shall comply with the emission limit of 40 CFR 60.104(a)(1). However, 40 CFR 60.104(a)(1) exempts process upset gases and certain types of fuel gas from the emission limit. Additionally, the provisions in 40 CFR 60.8(c) indicate that emissions in excess of the level of the applicable emission limit during periods of malfunction, startup, and shutdown shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. Emission limits for demonstrating attainment and maintenance of the NAAQS must apply at all times. (See responses to comments II.D.1.(b) and II.D.2.(a), above, and reference document RRR.)

Third, the alternative monitoring plan (AMP), that was approved pursuant to the consent decree and NSPS requirements (see reference document LLLLLL) for the refinery flare fuel gas combustion device, primarily relies on quarterly measurement of the H_2S content of some of the refinery fuel gas streams that go to the flare using stain tubes; more frequent measurement may be required for a limited time depending on the concentration measured. Although this may be acceptable under the terms of the consent decree and the NSPS, we believe more frequent testing is necessary for determining compliance with an emission limit set to assure attainment and maintenance of the NAAQS.

5. Affirmative Defense/1999 Excess Emissions Memorandum

(a) *Comment (WSPA):* The availability of an affirmative defense is desirable. Even though EPA may allow for the assertion of affirmative defenses, the affirmative defense would only be allowed for the mitigation of penalties. This is an unreasonable position in which to place refiners subject to the proposed requirements.

Response: We are providing an affirmative defense to penalties in the final rule, but not to injunctive relief. This is consistent with the Clean Air Act interpretations expressed in our 1999 excess emissions memorandum. See reference document RRR. We believe it is reasonable to retain the authority to seek injunctive relief for all exceedances of emission limits so that we remain able to protect the NAAQS, regardless of source ''culpability'' for any specific exceedance.

We note that in our proposed FIP preamble, we invited comment regarding whether it would be appropriate to extend an affirmative defense to the FIP sources for exceedances of their flare limits during malfunctions, startup, and shutdown. See 71 FR 39264, July 12, 2006. There we said the following:

> ''We do interpret the CAA to allow owners and operators of sources to assert an affirmative defense to penalties in appropriate circumstances, but normally we would not view such an affirmative defense as appropriate in areas where a single source or small group of sources has the potential to cause an exceedance of the NAAQS. See 1999 policy statement. We solicit comment on whether it would be appropriate to include in our final FIP the ability to assert an affirmative defense to penalties only (not injunctive relief) for violations of the flare limits.''

We have decided to provide an affirmative defense for violations of the flare limits during malfunction, startup, and shutdown. We believe this represents a deviation from our 1999 excess emissions memorandum because in the Billings/Laurel area, one or more of the FIP sources may have the potential to cause an exceedance of the SO_2 NAAQS. In the unique circumstances of this FIP, with the rule language we are adopting, we believe a deviation from the 1999 excess emissions memorandum is warranted. For example, we have included rule language that indicates the affirmative defense is not available if, during the period of the excess emissions, there was an exceedance of the SO_2 NAAQS that could be attributed to the emitting source. At least one other EPA Region has approved an affirmative defense provision with this language. See Maricopa County Rule 140 (reference document ZZZZZ), which Region 9 approved on August 27, 2002 (67 FR 54957) (reference document AAAAAA). Although not identical to the 1999 excess emissions memorandum, this rule language should provide a significant incentive to the facilities to take steps to avoid and reduce flaring whenever possible.

Also, based on our experience since the 1999 excess emissions memorandum was issued, we believe that the elements of the affirmative defense delineated in the 1999 excess emissions memorandum, which elements we have adopted in this FIP, provide a very significant incentive for

facilities to do all they can to comply with their emission limits. It is not clear that the incentive is significantly different than would be present under a traditional enforcement discretion approach, particularly when sources assume that enforcement action will rarely be taken for infrequent or small violations. Finally, we have considered industry comments regarding safety concerns, and while we do not agree that emissions from flares should be treated entirely differently from emissions from stacks and other points, we think our resolution of this issue appropriately and reasonably addresses industry concerns.

(b) *Comment (WETA):* Any flare emission limitations should include, at the least, an allowance for an affirmative defense for malfunction, startup, and shutdown circumstances.

Response: See response to comment II.D.5.(a), above.

(c) *Comment (NEDA/CAP):* EPA should adopt a broad affirmative defense for penalties and injunctive relief for malfunctions as part of the mass emission limit for flares. MPA indicated that the FIP should not be adopted in the proposed form because the failure to include an affirmative defense for flaring resulting from malfunctions poses a significant safety risk to employees and the public with no corresponding benefit.

Response: See response to comment II.D.5.(a), above.

(d) *Comment (NEDA/CAP):* NEDA/CAP is concerned about the potential for EPA's establishment of any precedent with regard to limiting the availability of affirmative malfunction defenses in nonattainment areas generally. NEDA/CAP is also concerned with the application of the 1999 Malfunction Policy in the Billings/Laurel proposed FIP because the Policy has never been subject to notice and comment rulemaking, but the application of the policy results in clear legal consequences for regulated entities in contravention of *Appalachian Power* v. *EPA*, 208 F.3d 1015 (D.C. Cir. 2000).

Response: See response to comment II.D.5.(a), above. Also, we respectfully disagree with the commenter that we are contravening the *Appalachian Power* case holding. In our proposal, we proposed that the flare limits would apply at all times but took comment on the application of an affirmative defense to penalties for those limits. In this final rulemaking, we have decided to provide the affirmative defense to penalties. The commenter had a full opportunity to comment on our proposal, which included a discussion of our interpretations of the CAA with respect to the treatment of excess emissions during malfunction, startup, and shutdown. See 71 FR 39264, col. 1, July 12, 2006. We have considered the commenter's comments along with all other comments.

(e) *Comment (NEDA/CAP):* NEDA/CAP is also concerned that EPA has made no demonstration that ''a single source or small group of sources has the potential to cause an exceedence of the NAAQS,'' or that the NAAQS in this air basin is in fact, any more vulnerable to a NAAQS exceedence from these sources than any other nonattainment areas is from a small group of sources. If finalized, the failure to provide an affirmative defense for malfunctions would be entirely arbitrary and unreasonable. Moreover, as a national precedent with severe legal consequences for sources in other nonattainment areas, adoption of this proposed FIP provision would be highly vulnerable to legal challenge for failure to meet the Clean Air Act's notice and comment procedures under a federal court's recent decision in *Environmental Integrity Project* v. *EPA*, 425 F.3d 992 (D.C. Cir. 2005).

Response: In our final action, we are providing an affirmative defense to penalties for the flare limits. We disagree with the commenter's assertion regarding notice and comment procedures; we believe we have met all applicable requirements and provided fair notice regarding our intentions in our notice of proposed rulemaking. We proposed that the flare limits would apply at all times and also invited comment on whether it would be appropriate to extend an affirmative defense for the flare limits to the four sources subject to the FIP. Our final action is a logical outgrowth of our proposal; we have decided to provide an affirmative defense to penalties for violations of the flare limits during malfunction, startup, and shutdown. While our action on this FIP may have some impact on other SIPs and FIPs based on the logic we have applied, our rule is only directly applicable to the four sources subject to the FIP. It is possible EPA may reach a different decision in future rulemaking.

(f) *Comment (API, COPC, MSCC, ExxonMobil):* While EPA's 1999 Malfunction policy does state EPA's position that affirmative defenses are not appropriate ''where a single source or small group of sources has the potential to cause an exceedence of the NAAQS,'' API and others are unaware of any instance where EPA has utilized this exception from its general policy allowing for the assertion of affirmative defenses during malfunctions. In this case, EPA has made no demonstration to justify an exception to the general allowance for affirmative defenses for malfunction events. Consequently, API urges EPA to allow the assertion of affirmative defenses in the final FIP. Additionally, ConocoPhillips indicated that because of the harsh consequences, EPA should only apply this exception to its policy where it is clearly demonstrated that there is very real, extended potential for a single or small group of sources to cause an exceedence of the NAAQS. This is not present in this case. In fact, actual monitoring has shown that even during malfunction, ambient NAAQS violations do not occur. ConocoPhillips urges EPA to allow the assertion of affirmative defenses for both penalties and injunctive relief in the final FIP.

Response: See our prior responses to comments II.D.5.(a), (d), and (e). Also, we note that on two occasions, one in 1985 and one in 1995, flaring resulting from malfunctions at ConocoPhillips caused ambient exceedances of the SO_2 NAAQS (see reference documents DDDDDDD and EEEEEEE).

(g) *Comment (NEDA/CAP, MSCC):* The proposed FIP appears to misinterpret the 1999 Malfunction Policy. The July 12 preamble for adoption of the FIP appears to suggest that prosecutorial discretion would never be allowed in a nonattainment area where the agency decides that ''one or a group of sources are directly implicated in nonattainment of a NAAQS.'' In fact, the 1999 Policy recommends that such situations have to be addressed in the underlying standards themselves through narrowly-tailored SIP revisions. Moreover, in no event does the 1999 Malfunction Policy ever prohibit the use of prosecutorial discretion.

Response: Enforcement discretion or prosecutorial discretion is always available. The question in this case was whether it was appropriate to codify an affirmative defense, which we have done in our final rule. We have not misinterpreted our 1999 policy.

(h) *Comment (NEDA/CAP, API):* There is no rational basis in the proposed FIP or the 1999 Malfunction Policy to limit the affirmative defense to penalties. NEDA/CAP asserts that such a limitation is not reasonable since the malfunction condition during which the exceedence of the applicable limitation occurs would be unavoidable.

Response: We respectfully disagree. There could be instances in which malfunctions are unavoidable based on current plant layout and operating parameters but in which some form of corrective action would still be

appropriate. We cannot predict the exact nature of those circumstances, but protection of the NAAQS and public health is not an intermittent obligation; we are required to assure attainment and maintenance of the NAAQS at all times, not just when sources are in normal operation mode or when attainment is convenient. *See, e.g., City of Santa Rosa* v. *EPA*, 534 F.2d 150 (9th Cir. 1976), vacated and remanded on other grounds sub nom. *Pacific Legal Foundation* v. *EPA*, 429 U.S. 990 (1976) (''Neither EPA nor this court has any right to decide that it is better to maintain pollutants at a level hazardous to health than to require the degree of public sacrifice needed to reduce them to tolerable limits' '', citing *South Terminal Corp.* v. *EPA*, 504 F.2d 646, at 656 (1st Cir. 1974); *South Terminal Corp.* v. *EPA*, 504 F.2d 646, 675 (1st Cir. 1974) (''[I]t seems plain that Congress intended the Administrator to enforce compliance with air quality standards even if the costs were great.'') Preserving injunctive remedies ensures that we remain able to protect air quality standards and PSD increments in accordance with our fundamental responsibilities under the CAA. See CAA sections 110(a) and (l), 42 U.S.C. 7410(a) and (l). See, also, the discussion of this issue in our 1999 excess emissions memorandum, reference document RRR.

(i) *Comment (MSCC, ExxonMobil):* An exception and affirmative defense should be available under the FIP that is at least consistent with the consent decrees executed by EPA and the State of Montana with most of the affected sources.

Response: As we have noted previously, the consent decrees and the FIP serve different purposes. We have adopted an affirmative defense provision that is consistent with the protection of the NAAQS.

(j) *Comment (Citizen):* On page 39264 is the statement ''We are proposing that the flare limits will apply at all times without exception.'' Laudable as that seems, EPA then subsequently states, ''We solicit comment on whether it would be appropriate to include in our final FIP the ability to assert an affirmative defense to penalties only (not injunctive relief) for violations of flare limits.'' If the former statement is accepted, what are the penalties for exceeding flare limits and how will they be imposed and will the public be advised which refinery exceeds a flare limit and how often could that happen to the detriment of air quality in this area?

Response: In this final rulemaking action, we have promulgated an affirmative defense to penalties for exceedances of the flare limits during malfunction, startup, and shutdown. Under this approach all excess emissions are considered violations. However, if we or anyone else brings an enforcement action, the facility may then assert the defense to penalties. To establish the defense, the facility must demonstrate to the judge that it took appropriate steps to avoid the excess emissions and met other requirements, the details of which are contained in our final rule. If the facility cannot establish the defense, it may be subject to CAA penalties up to $32,500 per day. We do not typically advise the public when a limit is exceeded or which facility has exceeded a limit, although we often alert the public through the press when we bring an enforcement action. Under the FIP, the subject sources must submit reports to EPA identifying their emissions. Those reports are available to the public through the Freedom of Information Act (FOIA). The establishment of flare requirements should help reduce flaring incidents.

6. Installation of Additional SO_2 Reduction Equipment

Comment (ExxonMobil): EPA's proposed FIP does not allow for time for the design and installation of facilities necessary to comply with the proposed flare emissions limitations. The facilities required for compliance with the proposed FIP go above and beyond what was built for the SIP or what will be built for the Consent Decree. For EPA's proposed FIP, the required controls have not yet been identified.

Response: It is not clear what facilities the commenter is envisioning. Without greater detail, it is difficult to respond to the comment. However, the FIP imposes no specific requirement for the sources to install control equipment to limit flare emissions, and the limit we are imposing is the same one the State imposed on the sources, and which continues to be included in their permits. Our expectation is that sources will take all steps within their control to avoid flaring events and minimize their impacts on air quality if they do occur.

To the extent that the commenter is referring to the time needed to design and install flare monitoring systems required by the FIP, we have extended the deadline for installation from 180 days to 365 days after EPA approval of the flare monitoring plan.

E. Concerns With Dispersion Modeling

1. Policy Issues

(a) *Comment (MSCC, ExxonMobil):* Out-of-Date and Invalid Model Choice. (i) The proposed FIP uses the same model as that used in the SIP. EPA's models have changed since the time the SIP was developed. It is inappropriate to propose and justify more restrictive requirements on sources without considering more current modeling techniques and requirements. The older model may be more appropriate to confirm an existing situation or permit minor changes. However, the FIP goes beyond minor changes.

Response: The commenter is correct that a newer model is now available. For new SIPs, we would require states to use EPA's most recent model. However, this is a unique situation. The State developed the Billings/Laurel SO_2 SIP using the ISC model, which was current at that time, and we approved various source-specific emission limits in the SIP based on the State's modeling effort. The purpose of this FIP is to fill gaps in the approved SIP. We are not intending or required to re-do the entire SIP. See, *e.g.*, section 302(y) of the CAA, 42 U.S.C. 7602(y) (''Federal implementation plan'' means a plan (or portion thereof) promulgated by the Administrator to fill all or a portion of a gap or otherwise correct all or a portion of an inadequacy in a State implementation plan * * *''); *McCarthy* v. *Thomas*, 27 F.3d 1363, 1365 (9th Cir. 1994) (A FIP is ''a set of enforceable federal regulations that stand in the place of deficient portions of a SIP.'') Accordingly, we think it is reasonable to rely on the same model the State used to develop the SIP. That way, all emission limits in the SIP and FIP will have been established on the same basis.

We note that MDEQ tested the performance of the ISC model when the Billings/Laurel SO_2 SIP was being developed, and the results showed that the model performance exceeded the performance criteria for models of this type. The FIP modeling represents a minor change to MDEQ's basic approach. The sources in the SIP modeling are characterized in the modeling inputs as 25 point and volume sources and, except for minor corrections provided by the sources, the major FIP-related change in modeling involves only one source: The MSCC 100-meter stack. We had to change the inputs for MSCC's 100-meter stack because the State gave too much stack height credit to MSCC's stack in the SIP modeling, and we, consequently, disapproved MSCC's SIP emission limits and the SIP attainment

demonstration. Otherwise, the FIP modeling uses meteorology data, receptors, and stack parameters for sources other than MSCC that are nearly identical to those used in the SIP modeling.

We also note that ISC remained an accepted EPA model at the time we proposed our FIP, and it is reasonable to finalize the FIP based on the same model. Switching models after our proposal would have required us to re-propose the FIP and would have delayed the FIP further.

(ii) A newer model, ''AERMOD,'' has been adopted as the EPA regulatory default model. It is clear that AERMOD is now preferred for regulatory use over the model used in the SIP development. Consideration needs to be afforded to models available today, and particularly to the model reasonably believed to give the most accurate results. The stakeholder process should be used to determine which dispersion model should be used for the FIP (ExxonMobil).

Response: See our response to comment II.E.1.(a)(i), above. We also note that AERMOD has more complex software than ISC and, as a result, it would be extremely difficult to perform the 1320 model simulations necessary to establish emission limitations that would address buoyancy flux variations that were included in the State's SIP. A stakeholder process is not required by the CAA and would merely serve to delay issuance of the FIP.

(b) *Comment (MSCC):* Out-of-Date Model Input. Any dispersion modeling used for the proposed FIP must include improved techniques regarding building downwash. A new method for calculating the downwash effects buildings have on predicted ambient concentrations has been developed. The new technique is known as ''Plume Rise Model Enhancement'' (PRIME) algorithm. This technique is now commonly in practice in both ISC–PRIME and AERMOD. EPA's FIP modeling does not use this technique.

Response: The PRIME downwash technique was never formally adopted by EPA for use in ISC. In order for states to employ this technique, EPA regional offices needed to authorize its use on a case-by-case basis until ISC was replaced as the reference model on December 9, 2006. The plume rise technique used in ISC was the recommended approach at the time the State developed the SIP, and the technique served the modeling community well for many years.

(c) *Comment (MSCC, ExxonMobil):* Modeling Violates EPA's Own Requirements. The modeling used for the proposed FIP does not meet EPA's own guidelines and requirements because of the model used, lack of current building profile, and numerous other problems found elsewhere.

Response: See our response to comment II.E.1.(a)(i), above. The modeling approach was extensively discussed with regulatory agencies and the public when the SIP was developed, and the ISC-based modeling approach met the requirements of EPA's Guideline on Air Quality Models.

(d) *Comment (MSCC):* Modeling File Naming Convention. EPA's modeling files and Technical Support Document, both contained in the docket, do not provide a reference to the naming conventions used in the modeling effort. While it is possible to dissect some of the naming conventions, it was not possible to discern each and every file and its purpose. Therefore, the reviewers are not certain that all the modeling attempts, purposes and nuances have been accounted for in the analysis. The commenter recommends a more complete description of the naming convention and the purpose behind each modeling effort needs to be explained.

Response: At the recommendation of industry, MDEQ allowed the use of buoyancy flux in establishing emission limits, which made the modeling far more complex. As a result, many more modeling files are included than is typically the case in SIP modeling applications. To improve documentation, some extraneous modeling files have been removed and a text file added to explain naming conventions. The naming convention used for the Billings/Laurel SO_2 FIP modeling files is typical of that used by the modeling community. To a modeler, the naming convention helps define the purpose behind the modeling effort. On July 13, 2007, the revised modeling files were indexed in the electronic docket contained on *http://www.regulations.gov*, and a compact disk containing the modeling files was placed in the docket for this action. See reference document FFFFF.

(e) *Comment (MSCC, ExxonMobil):* Out-of-date and Invalid Emissions Rates. Federally enforceable emission rates from refinery consent decrees have not been included in the FIP modeling. EPA has used 10-year-old emission inventory data that compromise the accuracy of the results. Reductions that have occurred in the past ten years have been ignored. The settlement documents related to the 1998 SIP contain requirements that substantially change the SO_2 emission limits, and, therefore, the results of any modeling demonstration (ExxonMobil). Without including these existing emission reductions from the SIP and near term future reductions from consent decrees, EPA's proposed FIP ignores state and federally enforceable SO_2 emission reductions already in place.

Response: See our responses to comments II.A.2.(b), II.B.2.(d) and II.D.4. The FIP modeling accounts for the limits that we approved in the Billings/Laurel SO_2 SIP and those we are promulgating in the FIP. We cannot include State requirements that were not submitted with the SIP. Additionally, the ExxonMobil consent decree limits have not been translated into short term emission limits by MDEQ and made a part of the SIP. Short term emission limits are required to ensure compliance with the 3-hour and 24-hour average SO_2 NAAQS. Also, the consent decrees do not address all of the stacks/sources involved in the SIP/FIP.

(f) *Comment (MSCC):* MSCC has concerns with using the SIP modeling. The predecessor model routines had been discredited (''invalidated'') in this valley following a study done years earlier by the State. The model, even in the 1990's, did not represent state of the art in modeling science and was admittedly prone to serious over-predictions, particularly in so-called intermediate and complex terrain.

Response: As noted above, the modeling was EPA's preferred model at the time of the SIP, has been validated for use in the Billings/Laurel area, and has been used extensively throughout the United States in setting emission limits for nearly two decades. The model has not been ''invalidated'' for use in the Billings/Laurel area. See also our discussion of related issues in our May 2, 2002, final action on the Billings/Laurel SO_2 SIP, 67 FR 22168, 22183.

(g) *Comment (ExxonMobil):* Only the current actually existing emission sources with proper geographical coordinates should be used as inputs to the dispersion model.

Response: We do not understand what the commenter is referring to when they indicate ''only the current actually existing emission sources * * * should be used as inputs to the dispersion model.'' With respect to geographical coordinates used in the modeling, they were provided by the sources in response to EPA's CAA Section 114 information request. The incorrect source coordinate for MSCC in the modeling files has been corrected.[12] On

[12] In reference document WW, Technical Support Document, Dispersion Modeling to Support Sulfur Dioxide (SO_2) Emission Limits in Federal

July 13, 2007, the revised modeling files were indexed in the electronic docket contained on *http://www.regulations.gov* and a compact disk containing the modeling files was placed in the docket for this action. See reference document FFFFF. To the extent the commenter is asserting that actual emission rates should be used as inputs to the dispersion model, we respectfully disagree. As described more fully in our response to comment II.E.1.(e), above, potential emissions rather than actual emissions are used in SO_2 attainment demonstrations, per longstanding EPA policy and 40 CFR part 51, Appendix W requirements. Accordingly, in our attainment demonstration, we modeled the emission limits we approved in the SIP and any new emission limits we are promulgating in the FIP. Thus, with the exception of certain units at MSCC, we modeled the same emission rates that the State used in its SIP modeling.

(h) *Comment (ExxonMobil):* Only the verified actual stack heights should be used as inputs to the dispersion model.

Response: Stack height regulations determine the stack height values that are used as inputs to dispersion models in SIP attainment demonstrations. In some cases this value may not be the same as the actual stack height. See 40 CFR 51.118. For example, under our stack height regulations, 65 meters is the appropriate stack height value for MSCC's SRU stack, even though the stack is 100 meters tall. We believe we have used the correct stack height values in all cases, and the commenter did not indicate that any specific stack height value we used in our modeling was incorrect.

(i) *Comment (ExxonMobil):* The meteorological data to be used as input to the dispersion model should reflect the most representative information. The meteorological set to be used should be chosen based on availability and based on those monitored parameters that are best able to take full advantage of the latest dispersion modeling techniques.

Response: EPA believes that the meteorological data from the Billings airport that was used in the SIP/FIP modeling is representative of conditions within the modeling domain. The Billings airport is located in an open area with good exposure to prevailing wind flow and has a long period of record. Five years of historical weather data (1984, 1986, 1987, 1988, and 1989) were used in the modeling to ensure that the full range of possible meteorological conditions were evaluated in the modeling. To our knowledge the Billings airport data have the longest period of record of any site in the Billings area. When the State developed the SIP modeling approach that EPA has now used for the FIP, the State tested ISC model performance using the Billings airport data. That evaluation showed acceptable model performance.

(j) *Comment (ExxonMobil):* EPA should be modeling emission rates to levels that predict values slightly less than the NAAQS. This modeling concept is referred to as ''pushing the model to failure.'' This approach is designed to determine the maximum emission limits allowed by regulation under acceptable modeling protocol. By proposing mass emission limits on flares of 150 pounds of SO_2 per 3-hour period or 500 pounds of SO_2 per calendar day, EPA has chosen to use, without further consideration, mass emission limits that do not ''push the model to failure'' but instead arbitrarily limit the sources to mass emission limits that go far beyond protecting the NAAQS.

Response: Emission inputs to the model were established using criteria contained in 40 CFR part 51, Appendix W, Section 8. The emission limits set by the modeling analysis are based on emission rates that would just meet the NAAQS. They are not based on ''arbitrary limits'' that go ''far beyond protecting the NAAQS''. For example, with the limits we are establishing and the SIP limits we approved, our modeling resulted in a high value of 354 $\mu g/m^3$ which would exactly meet the 24-hour SO_2 NAAQS of 365 $\mu g/m^3$ when background concentrations of 11 $\mu g/m^3$ are considered.

(k) *Comment (MDEQ):* Montana continues to affirm the use of the ICS3 model.

Response: We acknowledge receipt of the comment and the support for the model used.

(l) *Comment (ExxonMobil):* EPA has not used current accurate process and meteorological inputs in its modeling. This is contrary to EPA's assurance in its May 2002 final rule that: ''Any future modeling in the Billings/Laurel area should incorporate all corrections. The SIP limitations are based on the best information available at the time the attainment demonstration was modeled, and the same will be true for any FIP limitations that are developed.'' 67 FR 22189. Also, in its May 2002 final rule, EPA stated that: ''We agree that future modeling should include all corrected data.'' 67 FR 22189. However, EPA has ignored critical factual data for purposes of developing the proposed FIP.

Response: The commenter ignores the context and meaning of EPA's statements in its 2002 SIP action. The cited quotes were part of our response to specific comments from one source that there were errors in the State modeling numbers used for that source's stack parameters. The comment was: ''CEMS data now indicate an error in the assumed buoyancy flux for MSCC's main stack; the current modeling protocol contains an assumption which significantly underestimates the average rise in emissions. Any revised modeling should correct this assumption.'' 67 FR 22189. We were merely agreeing that future modeling should include corrected stack parameters based on CEMS measurements: ''CEMS measurements of flow and temperature data provide the best estimates of stack parameters, and values based on CEMS data should be used in any future SIP modeling for Billings provided the CEMS data are accurate.'' *Id.* We were not indicating we would use a new model, different meteorological data, or consider entirely new structures. In fact, on the same page of our 2002 notice, we said the following:

''In addition, dispersion models and data bases are continually being improved. The task of demonstrating attainment could never be completed if we or the State were compelled to update the analysis with each new refinement. For the FIP, we intend to continue to use ISC2 as the applicable model to fill in the gaps in the State's attainment demonstration created by our disapproval of the emission limitations for MSCC's 100-meter stack. Some source parameters have been corrected since the 1994 modeling analysis (see Response V.D.4.(d), above), but we intend to use the same meteorological

Implementation Plan (FIP) for Billings/Laurel, Montana, June 2006, we indicated that one suggested change that was not incorporated into the EPA FIP modeling involved the coordinate system used in the model to identify source location. MDEQ developed the original source locations based on the UTM NAD27 (North America Datum of 1927) coordinate system, and EPA has retained that coordinate system in our modeling. It appeared that several of the suggested changes to source locations were based on NAD83 values. The newer coordinate system can affect source locations by up to 200 meters. In dispersion modeling on the scale of the current modeling domain, consistency between the source and receptor locations is the most important consideration. For this reason, suggested changes that appeared to be based on the NAD83 were not included in the modeling. However, changes that address local inconsistencies in measured distances between fixed stacks (such as at MSCC) on a specific property were incorporated in EPA's modeling using UTM NAD27. Sensitivity testing of the model showed that even the NAD27/NAD83 differences did not significantly affect total predicted concentrations; the principal effect was, in some instances, to shift the location of the maximum impact to a different receptor. An electronic record (compact disk) of EPA's sensitivity testing of the model is contained in the docket. See reference document EEE in Docket Number EPA–R08–OAR–2006–0098.

data and modeling protocols the State used, so that the results will be comparable.''

For a more complete discussion of our basis for selecting the model and data inputs we have used, please refer to the other responses to comments in this section II.E, our proposed FIP, and our TSD for the proposed FIP.

2. Technical Issues

(a) *Comment (MSCC, ExxonMobil):* Incorrect Source Location. The location of the small boiler stacks at MSCC that are modeled as a volume source is incorrect. The error occurs by the nature in which the X and Y coordinates are entered into the SRI file. The entry is off by one column.

Response: This has been corrected. On July 13, 2007, the revised modeling files were indexed in the electronic docket contained on *http://www.regulations.gov* and a compact disk containing the modeling files was placed in the docket for this action. See reference document FFFFF.

(b) *Comment (MSCC):* Incorrect Emission Rate. Table 2 of EPA's Dispersion Modeling Technical Support Document shows the modeling value of 136.21 g/sec for MSCC's SRU-100-meter stack. An emission rate of 150.0 g/sec was modeled in the majority of the EPA modeling. If the proposed emission limit of 3003.1 lb/3-hours (126.13 g/sec) is correct, then the number that should appear in both the table and the input files is 126.13 (g/sec) to be consistent with the emission limit.

Response: In the State's original SIP modeling submittal there were 1,320 modeling scenarios with various buoyancy flux combinations that were tested, and it was determined that only a few of these resulted in concentrations that threatened the NAAQS. EPA conducted screening to eliminate the need for refined modeling of those scenarios where the NAAQS were not threatened. The 150 g/sec emission rate was used provisionally to determine which modeling scenarios would result in the maximum ground level concentrations, and was not used to set MSCC's proposed emission limit. Once the appropriate modeling scenarios were determined by EPA, only those scenarios were used to conduct the refined modeling to establish an emission limit of 126.13 g/sec. The commenter is correct that there is a discrepancy between Table 2 in EPA's Dispersion Modeling Technical Support Document (reference document WW) and the modeling input files. The input files for the limited modeling scenarios reflected the correct value, 126.13 g/sec. Table 2 of the TSD contains the wrong value.

(c) *Comment (MSCC, ExxonMobil):* Missing Modeling Files. Three source input files (SRI files) were not included in Reference Document EEE, the basis for the modeling conclusion and the proposed emission limit for MSCC's 100 meter stack. It appears that these files were actually used in model runs.

Response: We have added the referenced modeling files. On July 13, 2007, the revised modeling files were indexed in the electronic docket contained on *http://www.regulations.gov* and a compact disk containing the modeling files was placed in the docket for this action. See reference document FFFFF.

(d) *Comment (MSCC, ExxonMobil):* Hanging Modeling Files. A source input file (ref_5t.sri) is included in Reference Document EEE. However, this input file does not appear to be used in any input (RUN) and output files (OPF) files. It is not possible to comment effectively on the adequacy of the model without knowing the file's purpose.

Response: This was a test file inadvertently included in the electronic record. It has now been deleted. On July 13, 2007, the revised modeling files were indexed in the electronic docket contained on *http://www.regulations.gov* and a compact disk containing the modeling files was placed in the docket for this action. See reference document FFFFF.

(e) *Comment (MSCC, ExxonMobil):* Outdated Building Profile Data. The dispersion modeling runs do not contain up-to-date information regarding building profile data. EPA's use of 10-year old historical data is not logical considering the agency requested and received certain building data in its December 2003 request.

Response: Building profile data were current at the time the MDEQ prepared the SIP. EPA is not updating the inputs to reflect recent changes in building dimensions or changes in dispersion models. We are simply correcting deficiencies in the MDEQ's SIP modeling. If we were to follow the commenters' suggestion, we would have to revisit the entire SIP, including SIP limits we approved. The CAA does not require us to re-open the entire SIP. See response to comment II.E.1.(a), above.

(f) *Comment (MSCC):* Variable ''HB'' and ''PW'' Not Used. In order to execute the FIP model, EPA requested source specific information including the modeling terms HB and PW. These values may be input into the IGM model, however, this information is superseded by direction-specific building parameters by the model while executing in all cases (stacks) of interest. In other words, the data that was coded by EPA in the model runs were ignored by IGM (in favor of other information) and therefore of no value. Instead, specific building data (discussed above) should have been entered into the program. There is at least one substantial building, the YELP coke barn, that should have been included in the 2006 model runs.

Response: See responses to comments II.E.1.(a) and II.E.2.(e), above. As noted above, to the extent possible, EPA is using the model inputs and model settings selected by the State at the time of SIP preparation and used in the IGM code. The model input selections reflect modeling practice and conditions at the time of the SIP. The coke barn did not exist at the time the SIP was prepared.

HB and PW values reflect the dimensions of the facilities that had large structures nearby and that MDEQ included for downwash processing in their SIP modeling. While the commenter is correct that, in the IGM model, these values were superseded by other data, obtaining these values was useful to us as a screening tool, and inputting these values into the model did not affect the validity of the results.

(g) *Comment (MSCC, ExxonMobil):* Compliance Analysis Not Valid. The FIP proposal notes that there is a ''trigger point'' of 500 lb/calendar day in various ''settlements'' between EPA and refineries. The proposal goes on to assert that a modeling analysis was conducted assuming the flares emitted SO_2 at a rate of 500 lb/3-hours and that the model demonstrated compliance to this alternative. A review of the modeling files, however, indicates that the ''controlling'' model run that defined MSCC's emission limit for the 100-meter stack (modeled at 65 meters) did not include this 500 lb/3-hour flare emission rate option.

Response: We solicited comment on whether we should limit the flares to 500 lbs of SO_2 per calendar day. We have not adopted that option. But, for purposes of the attainment demonstration, we modeled the 500 lbs as if it were emitted over a 3-hour period rather than a calendar day. We wanted to assure that if all the calendar-day allowed emissions were emitted in a 3-hour period, the 3-hour NAAQS would still be protected. Those modeling files are contained in the docket.

However, the controlling model run that defined MSCC's emission limit for the SRU 100-meter stack was for the 24-hour NAAQS. There was no need to model the 500 lbs of SO_2/calendar day to show compliance with the 24-hour NAAQS since we had already modeled the flares at 1200 lbs of SO_2/calendar

day. Since attainment of the 24-hour NAAQS was shown at 1200 lbs of SO_2/calendar day, the area would still show attainment at 500 lbs of SO_2/calendar day.

F. Miscellaneous Comments

1. Stakeholder Process

(a) *Comment (CHS Inc.):* If EPA intends to regulate malfunctions, startups, and shutdowns, a stakeholder's process should be used to accurately develop a reasonable flare limit.

Response: EPA announced its proposed FIP in the **Federal Register** on July 12, 2006, invited public comment, and identified the time and place for a public hearing. A public hearing was held in Billings, Montana, on August 10, 2006. Only one person from industry spoke at the hearing. Prior to the hearing and at the hearing itself, no one mentioned the concept of a stakeholder process. In addition, we provided nearly four months for the affected facilities and other members of the public to submit written comments and suggestions regarding our proposed FIP, including a substantial extension to our original 60-day comment period in an attempt to reasonably accommodate State and industry requests. We have made a number of changes in response to comments received. If the affected facilities had other ideas about how we could better structure the FIP, they had ample opportunity to express those concepts.

We have complied with the requirements of the CAA as set forth in section 307(d) regarding public participation for the FIP. We are not required to hold a stakeholder process. Issues regarding malfunctions, startups, and shutdowns are addressed above.

(b) *Comment (CHS Inc., ExxonMobil, MPA):* It would be in the best interest of all involved that a stakeholder process be used to determine what, if any, enhancements to the Montana SIP are appropriate.

Response: See response to comment II.F.1.(a), above.

(c) *Comment (WETA, COPC):* If the EPA feels strongly that consideration should be given to different controls for SO_2, then a stakeholder process should be utilized to consider issues and relevant information in deciding if a further SIP or FIP is necessary.

Response: See response to comment II.F.1.(a), above.

(d) *Comment (MSCC, ExxonMobil):* EPA has developed the proposed FIP in a vacuum as to the affected parties. It is inappropriate for EPA to not consult the affected facilities in any meaningful way. The process used by Montana in developing the SIP should be used in the FIP. A stakeholder process will allow all parties an opportunity to ensure that the best available information is considered in formulating any proposed requirements.

Response: See response to comment II.F.1.(a), above.

2. Ripple Effect

(a) *Comment (WETA):* The commenter is concerned not only with the impact of the FIP on the refineries in the area but the potential ripple effect on the businesses, workers, and other consumers who daily use and depend on the variety of products produced by the petroleum refineries in the Billings/Laurel area.

Response: We acknowledge the commenter's concerns. We recognize that our FIP will result in costs to MSCC and the refineries, which they may or may not pass on to consumers. We have tried to be sensitive to the costs MSCC and the refineries may incur to meet the FIP's requirements, which potentially would affect the costs of products to consumers. For example, where we determined less costly methods to monitor SO_2 concentrations could achieve similar results, we are allowing these other methods to be used. However, our ultimate charge under the CAA is to protect the SO_2 NAAQS, recognizing that cost impacts to sources and consumers may occur. *See, e.g., City of Santa Rosa* v. *EPA,* 534 F.2d 150 (9th Cir.1976), vacated and remanded on other grounds sub nom. *Pacific Legal Foundation* v. *EPA,* 429 U.S. 990 (1976).

(b) *Comment (citizen):* The commenter is a dryland farmer and uses an ammonium sulfate (thiasol) fertilizer, which is a by-product of the refinery process. He says he is doing as much as he can to be environmentally conscientious and not introduce metals into the soils found in other fertilizers. This requires him to use the thiasol that is refinery-produced. He requests that EPA not exacerbate a bad situation for agriculture, which increases costs to a major industry which is marginal in profitability and major in importance to the State of Montana.

Response: See response to comment II.F.2.(a), above.

3. Extend Comment Period

Comment (COPC, ExxonMobil, MSCC, WETA, YCC): Commenters asked for additional time to comment on the proposed FIP, until at least December 11, 2006.

Response: The public comment period on the FIP proposal ran from July 12, 2006, through November 3, 2006—almost four months. Additionally, a public hearing was held in Billings, Montana, on August 10, 2006. EPA believes it provided sufficient time and opportunity for all commenters to provide comments on the proposed FIP.

4. EPA's Strategic Plan

Comment (COPC): The proposed FIP, which contains inflexible flare emission limits and strictly-specified monitor installations requirements, is inconsistent with EPA's Strategic Plan, which commits EPA to ''finding innovative solutions and collaborating with others.''

Response: We acknowledge the commenter's concerns. However, we are charged with meeting the CAA's requirement to assure that the SO_2 NAAQS are met and maintained. Accordingly, the FIP adopts flare emission limits and compliance determining methods.

It should be noted that the discussion on Innovation and Collaboration in the ''2006–2011 EPA Strategic Plan, Charting Our Course,'' September 2006 (reference document BBBBBB), pertains to complex environmental challenges where broad-based problems cannot be solved with conventional regulatory controls. We do not think this is relevant here. We are merely establishing limits on flares and methods to determine compliance with those limits.

5. FIP Provisions in Title V Permits

Comment (MDEQ): Montana acknowledges that the FIP provisions, if promulgated, will be incorporated in Title V permits. However, Montana expects EPA will take the lead on implementing and enforcing the FIP provisions.

Response: EPA intends to assume primary responsibility to implement and enforce the FIP. However, the FIP requirements will be ''applicable requirements'' under Title V, which, therefore, must be included in Title V permits for the affected sources and be enforceable by the State.

6. Length of Time it Took EPA To Propose FIP

Comment (YVAS): Since the 1990 Clean Air Act requires NAAQS for SO_2 to protect public health, YVAS deplores this ''inadequacy [sic] and ''non-attainment'' and deplores further that the EPA did not adequately and in timely fashion, take necessary steps to enforce the CAA's provisions to protect the air quality in the Billings/Laurel area in a reasonably suitable time period regardless of any mitigating circumstances. A specific justification explaining this lapse in EPA's

responsibilities for not acting in the public interest is essential to the residents of the Billings/Laurel area given that at the time, the Billings/Laurel Sulphur Dioxide Area was subject to excessive amounts—estimated to be over 35,000 tons (1993)—of SO_2 atmospheric pollution.

Response: We believe EPA's SIP Call and subsequent State and EPA actions to address the SIP Call have helped reduce SO_2 emissions in the Billings/Laurel area. There is no question that this process has taken longer than it should have.

7. EPA Enforcement

Comment (YVAS): YVAS insists that the EPA consistently monitor industry emissions in order that industry sources continue to comply with the SIP and/or the ''more stringent requirements under other provisions of the CAA'' or ''SIP-approved permit programs.''

Response: EPA intends to take the lead in enforcing the emission limits and monitoring requirements contained in the FIP. Congress intended that states have primary responsibility for implementing and enforcing their SIPs. Additionally, states may take the lead in implementing and enforcing other CAA programs (*e.g.*, News Source Performance Standards (NSPS), Maximum Achievable Control Technology (MACT) standards, Title V permitting), either through EPA delegation or program approvals. In the latter cases, we have an oversight role and may take enforcement action under section 113 of the CAA for violations of a SIP or other CAA requirements when a state does not take action or when its action is considered ineffective.

EPA Region 8 communicates regularly with the MDEQ regarding sources. We have regular meetings with MDEQ regarding sources that are violating emission limit requirements and discuss the MDEQ's proposed or ongoing actions to address these violations. We intend to continue to carry out our oversight responsibility for the SIP and other CAA requirements for the Billings/Laurel sources. If we determine that the MDEQ is not taking appropriate action for violations of the SIP, or other CAA requirements, we will take appropriate action.

8. Further Emission Reductions

Comment (YVAS): Although the industry is attaining lower yearly decreases of SO_2 since 1994, with presumably a better and ''healthier'' air quality in the area thereby, the assumption logically follows that industry should be required to comply with further reduced SO_2 release levels. Nowhere in this FIP is there an attempt to address the issue of a further reduction in the total emissions of the industrial sources in the Billings/Laurel area. Accordingly, YVAS believes that all anti-lower SO_2 emission arguments are irrelevant against the demand for protecting public health standards and additional reduction of SO_2 emissions is mandatory under the CAA. Failing to address a further SO_2 emissions reduction should be considered another serious breach of your responsibility to the Billings/Laurel public. Why did EPA not include a discussion towards reducing the total SO_2 emissions in the Billings/Laurel Sulphur Dioxide area in this FIP and since EPA did not include that discussion here, does EPA plan to do that and if so, when?

Response: The 1970 CAA established the air quality management process as a basic philosophy for air pollution control in this country. Under this system, we establish air quality goals (NAAQS) for criteria pollutants. States develop control programs (termed SIPs) to attain and maintain these NAAQS. Our fundamental obligation in the SIP/FIP context is to ensure that the NAAQS are met, not reduce emissions to zero. Thus a reduction of SO_2 emissions is mandatory only to the extent needed to attain the NAAQS. However, under section 116 of the CAA, states may adopt and enforce any air pollutant standard, limitation, or control requirement so long as it is no less stringent than that required by the CAA. Put another way, states can require that the air be cleaner than the NAAQS. Our goal in the FIP is to ensure attainment of the SO_2 NAAQS.

9. SO_2 NAAQS

(a) Comment (YVAS): Nowhere in this FIP is any reference made to what clean air standards should be under the CAA or NAAQS. Commenters should have been informed as to those standards in this FIP in order to fairly judge as acceptable or non-acceptable the release standards proposed for the sources in this FIP. How can the public adequately comment on clean air issues when those standards are unknown to the public? Further, referring the general public to sources where those standards would be found is a disservice to the public since many of those sources of such information may be unattainable or unavailable.

Response: The July 12, 2006, proposed FIP did identify the 24-hour and 3-hour SO_2 NAAQS under the modeling discussion (71 FR 39259, starting at 71 FR 39270, col. 1). The SO_2 NAAQS were previously established (see discussion below), and EPA was not seeking comment on any changes to the NAAQS in this FIP action.

Two sections of the CAA govern the establishment and revision of NAAQS. Section 108 (42 U.S.C. 7408) directs the Administrator to identify pollutants which ''may reasonably be anticipated to endanger public health or welfare'' and to issue air quality criteria for them. These air quality criteria are to ''reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of [a] pollutant in the ambient air.''

Section 109 (42 U.S.C. 7409) directs the Administrator to propose and promulgate ''primary'' and ''secondary'' NAAQS for pollutants identified under section 108. Section 109(b)(1) defines a primary standard as one ''the attainment and maintenance of which, in the judgement of the Administrator, based on the criteria and allowing an adequate margin of safety, [is] requisite to protect the public health.'' A secondary standard, as defined in section 109(b)(2), must ''specify a level of air quality the attainment and maintenance of which, in the judgement of the Administrator, based on [the] criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of [the] pollutant in the ambient air.'' Welfare effects are defined in section 302(h), 42 U.S.C. 7602(h), to include ''effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being.''

On April 30, 1971 (reference document CCCCCC), the Environmental Protection Agency (EPA) promulgated primary and secondary NAAQS for sulfur oxides (SO_x) (measured as SO_2) (then codified as 40 CFR 410.4 and 410.5). The primary standards were set at 365 micrograms per cubic meter (µg/m3) (0.14 parts per million (ppm)), averaged over a 24-hour period and not to be exceeded more than once per year, and 80 µg/m3 (0.03 ppm) annual arithmetic mean. The secondary standard was set at 1,300 µg/m3 (0.5 ppm) averaged over a period of 3 hours and not to be exceeded more than once per year. In accordance with sections 108 and 109 of the CAA, in the 1990's, EPA reviewed and revised the health and welfare criteria upon which these primary and secondary SO_2 standards were based. On April 21, 1993 (58 FR 21351) (reference document DDDDDD),

EPA announced its final decision under section 109(d)(1) of the CAA that the revisions of the secondary SO_2 NAAQS were not appropriate at that time. On May 22, 1996 (61 FR 25566) (reference document EEEEEE), EPA announced its final decision under section 109(d)(1) of the CAA that the revision of the primary SO_2 NAAQS was not appropriate at that time. EPA is currently reviewing the primary and secondary standards again to determine whether they should be revised.

The Code of Federal Regulations (CFR) is available at most public libraries and on the internet at: *http://ecfr.gpoaccess.gov/*. Likewise, the CAA is also available at most public libraries and on the internet at EPA's Web site: *http://www.epa.gov/air/caa/*.

(b) *Comment (citizen):* The rejection of Montana's Plan to control air quality in the Billings/Laurel air shed 4 years previously has left a serious gap in the air quality in this air shed.

Response: We acknowledge this comment. See response to comment II.F.6., above.

10. SO_2 Health Effects

(a) *Comment (Citizen):* The air is so bad near the commenter's house that she needs to close the windows. She has headaches and burning eyes and sinuses. How safe is it for the families? Commenter is concerned that air emissions affect landscape and river areas. Commenter would like EPA to assure that refineries do not off-gas unmeasureable blasts of pollution as she has seen them do over her water, county, and home.

Response: We acknowledge this comment. The FIP, along with other requirements contained in the SIP, will provide an enforceable mechanism to assure that the SO_2 NAAQS in the future will be protected in the Billings/Laurel area. Since EPA initially requested the State to revise the Billings/Laurel SO_2 SIP, actual SO_2 emissions from companies have been cut by more than half and there have been measured improvements in air quality. The SIP and FIP contain an enforceable control strategy to help ensure that the SO_2 NAAQS are attained and maintained.

(b) *Comment (Citizen):* Since national air quality standards are more stringent than Montana requires, serious health risks to area residents is probable and cannot be ignored.

Response: See response to comment II.F.10.(a), above. Note that the State's ambient standards, in some cases, are more stringent than the national standards. Subchapter 2 of the Administrative Rules of Montana (ARM) contains the Montana ambient air quality standards (MAAQS). The MAAQS are not contained in the federally-approved SIP; the CAA does not require that the standards be in the federally-approved SIP. The SO_2 MAAQS are contained in ARM 17.8.210 (see reference document FFFFFF) and are as follows: (1)(a) Hourly average—0.50 ppm, not to be exceeded more than 18 times in any 12 consecutive months; (1)(b) 24-hour average—0.10 ppm, not to be exceeded more than once per year; and (1)(c) annual average—0.02 ppm, not to be exceeded. The 24-hour and annual SO_2 MAAQS are more stringent than EPA's 24-hour and annual SO_2 NAAQS. The State has a 1-hour average SO_2 MAAQS and EPA has a 3-hour average SO_2 NAAQS. The State does not require that plans be developed to assure attainment and maintenance of the MAAQS, whereas, EPA does require plans to assure that the NAAQS are attained and maintained.

(c) *Comment (Citizen):* Commenter works the evening shift near the industrial sector and the refineries and the coke plant. He notices that at night the air becomes more sour. Depending upon which way the wind is blowing or whatever is occurring in the area, it will burn his eyes and nose. It will start to burn his lungs and inflame his chest and it will make it harder for him to breathe. The air is like a smoke-filled barroom. He used to live in this area as well. Commenter feels it degrades the quality of his life. He's standing up for his lungs.

Response: See response to comment II.F.10.(a)., above.

11. Public Process

(a) *Comment (Citizen):* Since there has been no public disclosure of the EPA's plans for complying with the standards (considered as minimal by local public health advocates) as set forth in the National standards (which also have not been provided publicity to create public awareness of those standards), the EPA should not proceed with any rule making unless the public receives an opportunity to comment.

Response: EPA announced its proposed FIP in the **Federal Register** on July 12, 2006. In the July 12, 2006 **Federal Register** notice, EPA provided for the opportunity of a public hearing. A public hearing was held in Billings, Montana on August 10, 2006. At the hearing, EPA discussed its proposed FIP. Additionally, EPA's proposed notice indicated that detailed information regarding the proposed FIP was available on the Internet. We have complied with the requirements of section 307(d) of the CAA regarding public disclosure and the administrative requirements for proposing the FIP. We are announcing this final FIP in the **Federal Register** as well. A discussion of the SO_2 NAAQS is provided above.

(b) *Comment (Citizen):* Plans for controlling emissions ''at the source'' must be provided by the EPA at any public meeting announced by the EPA and those plans should be announced publicly in advance of the meeting in order for the public to understand what the effects and results of such plans will be on the air shed quality of the Billings/Laurel metropolitan area.

Response: See response to comment II.F.11.(a), above.

12. Stack Height

(a) *Comment (Citizen):* Included in EPA's emission control plans must be a stringent requirement that none of the three area refineries or the Montana Sulphur and Chemical company may construct any emissions stack or flaring system of 100 meters or higher. Information concerning the probable effects, distance, wind patterns, content etc. of the dispersal plumes of stacks of this height should be provided to the public at any hearing in order that public comment on this crucial aspect of the emission control plan may be properly analyzed. Under no circumstances should the 100-meter height be considered as a minimum permissible height by the EPA or by the companies involved for any stack or flaring system.

Response: EPA does not restrict the physical height of a smoke stack. See 40 CFR 51.118(a). However, we do restrict the credit a company receives for its stack height in the modeling used to determine whether a SIP will meet national standards for specific air pollutants. *Id.* The stack height credit is based on the greater of the following: (1) A height of 65 meters, (2) a height based on a formula that considers the surrounding buildings, or (3) a height based on technical modeling studies which show a certain height is necessary to avoid high levels of pollutants in the nearby area. See 40 CFR 51.100(ii).

EPA has rules that apply to tall stacks; otherwise, companies could avoid installing needed pollution control equipment. Industry could simply build higher stacks and emit into the air additional pollutant levels that would not violate local air quality standards, but could eventually affect the air quality of communities farther downwind. This is because the higher the stack height, the greater the dispersion of pollutants and the less likely they will reach the ground in the

vicinity of the stack. EPA does allow increases to stack height credits when the stacks meet the conditions noted above.

EPA disapproved part of the Billings/Laurel SO_2 SIP because MSCC's stack height credit did not meet the conditions noted above. EPA believes that the appropriate stack height credit for the MSCC SRU 100-meter stack is 65 meters. The 65-meter stack height credit was used in the modeling for the FIP. We did not identify any other concerns with the stack height credit used for other sources in the SIP.

(b) *Comment (Citizen):* Studies, including wind roses of the dispersal pattern of all stacks of 65 meters and higher should be provided to the public at a hearing of the final FIP, in order that the public comment on this crucial aspect of the emission control plan may be properly analyzed.

Response: The CAA directs EPA to take public comment on proposed FIPs, not final FIPs. See CAA section 307(d). EPA's modeling studies for the proposed FIP were contained in the docket for the proposed FIP and available for review during the comment period on the proposed FIP. Additionally, on July 13, 2007, the revised modeling files were indexed in the electronic docket contained on *http://www.regulations.gov* and a compact disk containing the modeling files was placed in the docket for this action. See reference document FFFFF.

13. General Support

(a) *Comment (Citizen):* The commenter wants to lend support to what EPA is trying to do here and the proposals that EPA is making, and he thinks it is very much on target and for his benefit, and he would hope the industries who are being regulated in this sense will find a way to make it worth their while to do it also.

Response: We acknowledge receipt of the comment and the support for our proposal.

(b) *Comment (Citizen):* Commenter encourages EPA to carry on the work we have been doing, to encourage movement in the positive direction of reducing emissions.

Response: We acknowledge receipt of the comment and the support for our proposal.

(c) *Comment (Citizen):* Commenter appreciates the changes that EPA is making and thinks the people in Billings deserve them. Commenter feels the industries need to step up to the plate and be responsible for their emissions.

Response: We acknowledge receipt of the comment and the support for our proposal.

14. SIP Escape Clause

Comment (MSCC): The SIP contains an important ''escape clause'' by which there was a general agreement that if the State provided more favorable treatment to one facility, the same accommodation would be offered to the other facilities. The present proposed FIP which proposes to reduce MSCC's stack height credit and drastically reduce MSCC's emission limits will violate that clause. This unwarranted intrusion into a carefully-bargained agreement among multiple parties, violates both the letter and the spirit of the CAA.

Response: We are not bound by the escape clause that the State approved; in fact, we disapproved this aspect of the SIP. See 67 FR 22168, May 2, 2002. Instead, we are obligated to correct the portions of the SIP we disapproved. We disapproved MSCC's main stack emission limits because they were based on inappropriate stack height credit. The FIP establishes new limits for MSCC's main stack that are consistent with our modeled attainment demonstration, based on a Good Engineering Practice (GEP) stack height credit of 65 meters. While it is not clear to us how this violates the State-approved escape clause, setting emission limits for MSCC's main stack consistent with our stack height regulations and necessary to demonstrate attainment of the NAAQS does not violate the CAA. On the contrary, setting such limits is required by the CAA, regardless of the State-approved escape clause.

G. MSCC Specific Issues

1. Variable Emission Limit

(a) *Comment (MSCC):* EPA offers surprisingly little discussion as to why a variable limit was not proposed for Montana Sulphur. EPA's reasoning seems to ignore that MSCC has been operating under a variable emissions limit that has been modeled, monitored, and enforced for close to a decade.

Response: EPA's reasoning for not offering a variable limit is discussed in the July 12, 2006, proposal notice (see 71 FR 39259, starting at 39268, col. 2) and reference document WW ''Technical Support Document'' contained in EPA Docket No. EPA–R08–OAR–2006–0098. Additionally, to our knowledge, the SIP limits for two sources in Billings (ExxonMobil and Montana Power) are the only instances in the United States where variable emission limits based on buoyancy flux have been adopted, approved, and implemented. The thousands of other emission limitations nationwide are based on a single fixed buoyancy flux value similar to what we proposed for MSCC.

(b) *Comment (MSCC):* Complicated to Model. (i) MSCC agrees that it is more complicated to model a variable emission rate than a fixed emission rate. That alone is not sufficient reason to deny MSCC the variable emission rate. Also, much has changed since the original modeling effort. Computer speed, memory, data handling, and storage are all improved.

Response: Modeling was one of the reasons we offered for not providing a variable emission limit; however, it was not the only reason. Although computer speed, data handling, and storage are improved since the MDEQ developed the Billings/Laurel SO_2 SIP, there would still be a considerable effort on EPA's part to model a variable emission limit for the SRU 100-meter stack. Therefore, we used EPA's historical practice of selecting mean values of historical data.

Individual stationary sources in SIP attainment demonstrations are typically modeled assuming a single representative value for the model input parameters that affect plume rise. Model input parameters that affect plume rise include stack gas temperature and volume flow, or buoyancy flux. If emissions are held constant, ground level concentrations would tend to decrease during periods with higher plume rise associated with elevated stack gas temperature and increased stack flow velocities. Conversely, ground level concentrations would tend to increase during periods with reduced stack gas temperatures and stack flow velocities. The State opted to set emission limitations based on variable buoyancy flux values for three of the sources. MDEQ identified a total of 11 buoyancy flux modeling scenarios for MSCC, 12 for ExxonMobil, and 10 for the Corette Power Plant. Modeling all possible combinations of scenarios required the State to model a total of 1,320 combinations for each year of meteorological data processed. EPA used a fixed buoyancy flux value for modeling MSCC and that reduced the number of potential modeling scenarios to 120. EPA reviewed the modeling results in the State's attainment modeling to identify which scenarios (of the 120 possible scenarios) would produce the highest concentrations. Based on this selection process, EPA modeled approximately 50 scenarios in the FIP modeling, and we believe that these scenarios represent the limiting

(i.e. maximum predicted concentration) case.

(ii) It is completely arbitrary to create, model, approve, monitor, and enforce variable limits at other Billings facilities but to deny the same courtesy for MSCC claiming that it is, in this case alone, too complicated a modeling effort.

Response: Again, modeling was not the sole reason for not providing a variable emission limit for MSCC's SRU 100-meter stack. Although EPA approved the variable emission limits at other Billings facilities, we did so with reservations. (*See* our July 28, 1999, proposed rulemaking action on the Billings/Laurel SO_2 SIP, 64 FR 40791, starting at 40794, col. 3, and our May 2, 2002, final rulemaking action, 67 FR 22168, starting at 22206, col. 2, for a full discussion of our concerns with the variable emission limit concept.) Since EPA is taking the lead in establishing emission limits for MSCC's SRU 100-meter stack and will take the lead in enforcing the FIP, EPA has chosen not to model and provide a variable emission limit. We believe our exercise of discretion so as to simplify FIP development and enforcement is reasonable, particularly where the data indicate MSCC will be able to comply with a fixed emission limit without additional controls and where fixed limits are the norm in SIPs throughout the country.

(c) *Comment (MSCC):* Complicated to Monitor. Buoyancy flux has been measured and reported to DEQ for a period of about eight years, with very high reliability. It is simply illogical to argue or imply that monitoring buoyancy flux is a task not worthy or too complicated in nature. One cannot deny the historical evidence that it has been measured successfully for many years and that it does not require any monitor instrumentation not already required to measure sulfur dioxide.

Response: See response to comment II.G.1.(b)(ii), above.

(d) *Comment (MSCC):* Complicated to Enforce. EPA's reason for not proposing a variable limit for MSCC due to enforcement is puzzling. If EPA approved variable emission limits for other sources, even though the same enforcement concern exists, it should also be approved for MSCC.

Response: The State developed the original SIP that allows variable emissions for several sources. The State takes the lead in enforcing the SIP, and EPA takes an oversight role. EPA approved portions of the SIP, including variable emission limits at two sources, and we did so with reservations. Since we would be taking the lead in enforcing the FIP, we have chosen not to place an increased burden on ourselves to enforce a variable limit. See also the response to comment II.G.1.(e), below.

(e) *Comment (MSCC):* Variable Limit is Better Science. Though it involves incremental initial work, from a modeling perspective, the use of variable limits is better science. It replaces a false assumption in modeling (constant, average stack conditions under all operating scenarios) with factual information so that plume height, which is variable, can be more accurately represented. Plume height, just like mass emissions, is normally variable and is critical to calculation of downwind concentrations.

Response: In addition to looking at air quality impacts of the FIP, we also need to assure that the FIP is enforceable. Although we may agree with the commenter that the variable emission limitation will result in fewer emissions when the buoyancy of the plume is lower, it will also result in higher emissions when the buoyancy of the plume is higher. Additionally, a variable emission limit is more difficult to enforce. Granted the same instruments would be used to determine compliance whether the emission limit is fixed or variable. However, in addition to confirming that the source is in compliance with a variable emission limit, agencies will also need to confirm that the variable emission limitation was determined correctly. Therefore, we believe that variable emission limits increase the workload and add a layer of complexity that is not found with fixed emission limitations. Because of this enforcement complexity, we do not agree with the commenter that variable emission limitations are a superior approach to setting emission limitations.

(f) *Comment (MSCC):* Fixed Limit Compliance. Although MSCC has been able to meet the proposed FIP limit for several years, it must be noted that MSCC has not always been able to operate within such limits, and that MSCC was not operating its sulfur plant at maximum capacity during the time periods cited by EPA. The primary reason MSCC can operate under EPA's proposed limit arises from MSCC's voluntary installation of SuperClaus ™. The SuperClaus unit must be shut down periodically for repair. MSCC needs the variable limit to be in compliance when SuperClaus unit is shut down. MSCC should not be punished for its good behavior by requiring control technology and lower emissions than is necessary to maintain NAAQS.

Response: EPA's proposed FIP limit for MSCC's SRU 100-meter stack was determined through modeling as the limit needed to assure attainment of the SO_2 NAAQS. Since the NAAQS are health-based standards, as a general matter, SIPs/FIPs must assure attainment of the NAAQS on a continuous basis.

We note that apparently MSCC was able to conduct maintenance on the SuperClaus unit in 2003, 2004, and 2005 without exceeding the proposed 3-hour and 24-hour FIP SRU 100-meter limits. MSCC may be able to perform its maintenance on the SuperClaus unit when other process equipment at ExxonMobil is down for maintenance. Additionally, we understand that MSCC intends to install a second SuperClaus unit to provide redundancy to the existing SuperClaus equipment. Installation is expected to begin in the fourth quarter 2007, at the earliest (reference documents GGGGGG and BBBBBBB). Concerns about additional emissions during maintenance should be eliminated with the addition of a second SuperClaus unit.

2. 100-Meter Stack Height Credit and Emission Limit

(a) *Comment:* MSCC submitted summary comments regarding its position concerning good engineering practice stack height credit for the 100-meter SRU stack. MSCC noted that these comments had generally been submitted previously to both EPA and Montana. MSCC claimed that it has not received the proper stack height credit for the 100-meter SRU stack in the proposed FIP.

Response: EPA disapproved the State's determination of stack height credit for MSCC's 100-meter SRU stack on May 2, 2002 (67 FR 22168). In the May 2, 2002, notice, starting on page 22209, we responded to all the stack height comments MSCC previously submitted. We hereby incorporate by reference our responses from that notice. We indicated in the May 2, 2002, notice that ''[w]e considered the comments received and still believe we should finalize our proposed disapproval of the MSCC's stack height credit and SRU 100-meter stack emission limitations. None of the adverse comments has convinced us that our interpretation of the CAA and our regulations is unreasonable or that we should change our proposed course of action.'' See our May 2002 final action (67 FR 22168). EPA has determined that the GEP stack height credit for the 100-meter SRU stack is 65 meters and has used that height in establishing the 100-meter SRU stack emission limit. Our stack height regulations, codified at 40 CFR 51.100

and 51.118, provide that the degree of emission limitation required for pollutant control under an applicable SIP shall not be affected by stack height in excess of GEP stack height. The central component of the regulations consists of definitions of the term ''good engineering practice stack height.'' GEP stack height is the greater of (1) 65 meters (known as ''*de minimis*'' stack height), (2) the height calculated using a formula specified by regulations (''formula height''), or (3) the height demonstrated using fluid modeling or a field study (''non-formula height'' or ''above-formula height''). See 40 CFR 51.100(ii)(1)–(3). Prior to our SIP action, the State calculated the formula height for the SRU 100-meter stack to be 47.8 meters (see reference documents VVVVVV and WWWWWW). Per our regulations, since this is lower than 65 meters, GEP stack height is 65 meters. We have not received any new information to indicate formula height should be higher than 47.8 meters, nor have we received a valid demonstration for above-formula stack height credit. See our proposed and final actions on the Billings/Laurel SO_2 SIP, 64 FR 40791 (July 28, 1999) and 67 FR 22168 (May 2, 2002), respectively. In light of our prior decision on the fluid modeling in the SIP action, and in the absence of a new, valid, GEP stack height demonstration, it would be inappropriate in this FIP for us to use a stack height value for MSCC that is inconsistent with our prior action.

(b) *Comment (YVAS):* YVAS believes the annual emission limit of 9,088,000 lbs of sulphur is too excessive because YVAS believes this ''proposed'' emission to be a major contribution to the total emissions of sulphur dioxide in the Billings/Laurel area and is, therefore, not acceptable. In addition, EPA states that: ''We (EPA) are proposing fixed emission limits rather than variable emission limits on MSCC's SRU 100 meter stack because they are less complicated to model monitor and enforce.'' This proposal is inadequate and does not address the continuing high total SO_2 emission limits you intend permitting MSCC to continue to release.

Response: Stack emission limits are set to assure that the SO_2 NAAQS are met. As seen in the SIP and FIP, there are 3-hour, 24-hour, and annual SO_2 emission limits on most stacks. These emission limits assure that the 3-hour, 24-hour, and annual SO_2 NAAQS are attained and maintained. As indicated in the response to comment II.F.8., above, we cannot require states to adopt provisions that go beyond attaining and maintaining the NAAQS. The annual emission limit we proposed for the SRU 100-meter stack, and that we are now promulgating in the FIP, assures that the annual SO_2 NAAQS will be attained and maintained. Additionally, the 3-hour and 24-hour SO_2 NAAQS are more controlling than the annual SO_2 NAAQS. This means that more stringent emission limits must be placed on stacks to assure that the 3-hour and 24-hour SO_2 NAAQS are attained and maintained than would be required to assure that the annual SO_2 NAAQS are met.

(c) *Comment (Citizen):* Commenter appreciates the logic of not allowing increases in stack height credit.

Response: We acknowledge the support for our proposal. Also, please see our response to comment II.G.2.(a), above.

3. 30-Meter Stack and Auxiliary Vent Stack

(a) *Comment (MSCC):* Emissions monitoring for 30-meter Stack and Auxiliary Vent Stacks. EPA has proposed unnecessarily complex, redundant, and unneeded monitoring and reporting requirements for both the 30-meter stack and the auxiliary vent stacks. The emissions from these units have minimal impact on model results. These predicted concentrations are less than 1% of the NAAQS. The emission limit applicable is miniscule in comparison with other uncertainties in the implementation plan. Emissions from these units, although authorized, are infrequent. Venting to the boiler stack is generally associated with events such as maintenance. For operational reliability and flexibility, MSCC needs to be able to vent these boilers locally. Monitoring these units is an expense and requirement that serves no real or useful purpose. Essentially the same information is already gathered under the State plan.

Response: As we indicated in our July 12, 2006, proposed FIP (71 FR 39259, 39268), it is necessary for EPA to require methods to assure that the emission limits for the 30-meter stack and auxiliary vent stacks are met. However, since MSCC has already established a method to monitor these emissions using length-of-stain detector tubes (e.g., Dräger Tubes),[13] and since length-of-stain detector tubes are widely-used and reliable, we have revised the FIP to make its requirements similar to those MSCC must already meet under the State's operating permit. Specifically, we have revised the method by which MSCC shall determine the H_2S content of the fuel burned. Our final FIP indicates that on a once-per-3-hour period frequency until no heater or boiler is exhausting to the 30-meter stack or an auxiliary vent stack, MSCC shall determine the H_2S content of the fuel burned using length-of-stain detector tubes with the appropriate sample tube range pursuant to ASTM Method D4810–06, ''Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length-of-Stain Detector Tubes'' (see reference document UUUUUU). The final FIP indicates that if the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range.

(b) *Comment (MSCC):* Emission Limit—100 ppm H_2S—A Redundant Limit. Having both a 12 lb/3-hour limit and 100 ppm H_2S limit creates double-jeopardy. Both limits are for solely and exactly the same thing. If a particular 3-hour period were to indicate 120 ppm, it would be in violation of both limits. This could (and is very likely to) occur even if the units were not, in fact, operating anywhere near an actual emission rate of 12 lbs/3-hours. This result is overkill and is not appropriate or necessary for protection of the NAAQS.

Response: In our FIP proposal, we were attempting to simplify the method to determine compliance with the mass emission limits. The assumption in the proposal was that if the H_2S concentration was below 100 ppm H_2S, then the source would be in compliance with the mass emission limits. We were not trying to create ''double jeopardy'' for MSCC. It appears that the commenter believes the 100 ppm H_2S limit is too restrictive because the source could be in compliance with the mass emission limit but out of compliance with the ppm limit.

In our final FIP we are keeping the simplified method to determine compliance with the mass emission limits. We believe determining direct compliance with the mass emission limits would either require additional monitoring equipment or methods and/or would be unreliable due to potential variation in boiler use and venting practices. However, to address the commenter's concern, we are increasing the H_2S concentration limit to 160 ppm per 3-hour period. We are adding a calendar day H_2S concentration limit of 100 ppm.

We selected the 160 ppm H_2S per 3-hour period limit for the following reasons. First, as explained in greater detail below, this value will protect the 3-hour SO_2 NAAQS. Second, 160 ppm

[13] See MSCC's ''Hydrogen Sulfide Fuel Gas Monitoring Plan,'' dated September 2000, that fulfilled requirements of Montana Air Quality Operating Permit 2611–00, Appendix H. (See reference document IIIIII.)

of H_2S per 3-hour period is the current NSPS limit for fuel gas combustion devices. EPA reported the following in its May 14, 2007, proposal to revise subpart J of the new source performance standards (NSPS), and to adopt new subpart Ja:

> after consideration of current operating practices, we concluded that amine scrubbing units are still the predominant technology for reduction of H_2S in fuel gas (and SO_2 emissions from subsequent fuel gas combustion). Considering the variability of the fuel gas streams from various refinery processing units, 160 ppmv also is still a realistic short term H_2S concentration limit. However, one California Air Quality Management District rule sets a 40 ppmv H_2S limit in fuel gas (averaged over 4 hours), and several refiners have reported that the typical fuel gas H_2S concentrations (after scrubbing) are in the same range.

(See 72 FR 27178, 27193.) Third, the State's SIP indicates that MSCC shall burn only low sulfur fuel gas or natural gas in any unit being exhausted through the 30-meter stack (see MSCC's exhibit A, reference document II). Low sulfur fuel gas is not defined in exhibit A. However, an MDEQ staff member indicated that the term ''low sulfur fuel gas'' in the SIP would be gas with an H_2S concentration much lower than the NSPS subpart J limit of 160 ppm (see reference document GGGGGG). This suggests that MSCC should already be achieving a daily limit of 100 ppm.

To test the use of a 160 ppm limit, we remodeled the area assuming the emissions were 1.01 g/s from the 30-meter stack and auxiliary vent stacks. We derived the higher emission value from the same assumptions and calculations expressed in our proposal, except we assumed a maximum H_2S concentration of 160 ppm (see 71 FR 39259, 39268, July 12, 2006). At the higher three hour emissions, the area would still show attainment of the 3-hour SO_2 NAAQS. However, the area would not show attainment of the 24-hour SO_2 NAAQS if all 3-hour periods in a calendar day were at the 160 ppm level. Therefore, we are revising the FIP to indicate that the H_2S concentration in the fuel burned in the heaters and boilers, while any of the heaters and boilers are exhausting to the SRU 30-meter stack or auxiliary vents stacks, shall not exceed 160 ppm per 3-hour period and 100 ppm per calendar day. The mass emission limits remain the same as proposed. The revised modeling files are indexed in the electronic docket contained on *http://www.regulations.gov,* and a compact disk containing the modeling files has been placed in the docket for this action. See reference document KKKKKK.

(c) *Comment (MSCC):* Emission Limit—100 ppm H_2S—Overly Stringent. The 100 ppm H_2S limit, which is a surrogate for the pound/hour SO_2 limit, is far too restrictive. EPA developed the 100 ppm H_2S limit based on conditions that have a miniscule probability of occurring. It has the effect of introducing a new, strict ''performance standard'' into the mix of limits, where such standard is not applicable.

Response: See response to II.G.3.(b), above. Also, in order to protect the NAAQS, it is reasonable to consider potential worst-case conditions in setting emission limits and compliance determining methods.

(d) *Comment (MSCC):* Monitoring Requirements. The requirement to monitor the auxiliary vent stacks has already been addressed through the State plan; there is no inadequacy or other basis to FIP this. The current system already periodically measures the H_2S content in the fuel gas header for gas that is not natural gas, using a simple portable detector (non-electronic) such as a Dräger tube or Gas-Tec tube. The frequency of testing necessity was determined through the State's plan and the frequency of such testing steps up in response to high measurements until the measurements have returned to low levels. The present plan also reasonably estimates the volume of gas used in each boiler to permit calculation of the SO_2 emitted by each auxiliary vent when in use, and logs the venting location, as the State plan provides.

Response: In large part, this comment appears to pertain to our disapproval of the relevant portion of the SIP. We note that we have not reopened our SIP action as part of this action and are not considering comments on that action here. To the extent the comment is relevant to our FIP action, see response to comment II.G.3.(b), above. As we explain there, the FIP retains the requirement that MSCC measure the H_2S content of the fuel burned but increases the 3-hour concentration limit to 160 ppm. The FIP also allows MSCC to use length-of-stain detector tubes in lieu of portable analyzers. However, based on comments received, we are not convinced that MSCC's current methods for determining direct compliance with the mass emission limits are sufficiently reliable or accurate for purposes of the FIP due to potential variation in boiler use and venting practices and lack of equipment to directly measure relevant parameters at or emissions from each boiler. We believe additional monitoring equipment would need to be installed, or additional monitoring would need to be performed, at greater expense to MSCC, to achieve adequate methods to determine direct compliance with the mass emission limits. The concentration limits we are imposing are reasonable, can be monitored at reasonable cost, and will ensure protection of the NAAQS.

(e) *Comment (MSCC):* Monitoring Cost. EPA proposes imposing significant overly burdensome on-going costs to track a minuscule amount of potential or actual SO_2 emissions.

Response: As we indicate in response to comment II.G.3.(a), we have revised the FIP to allow MSCC to use the same devices to determine H_2S concentrations in the gas going to the 30-meter stack and auxiliary vent stacks as MSCC is using to meet State requirements (length-of-stain detector tubes). While the frequency of monitoring may be somewhat different than the frequency under the State's permit, the final FIP should not result in any substantial additional monitoring costs for the 30-meter stack and the auxiliary vent stacks, particularly since MSCC indicates emissions from these stacks are infrequent.

H. ConocoPhillips Specific Issues

SRU/ATS Stack and Jupiter Flare

Comment (COPC): ConocoPhillips urges EPA to delete the proposed prohibition of simultaneous emissions from the SRU/ATS stack and the Jupiter flare even if the combined SO_2 emissions are less than 25 lb/hr. This merely imposes a compliance risk and produces no environmental benefit. Logic does not dictate that because both sources were modeled as one point, that combined, simultaneous emissions from both are prohibited. Quite the contrary, having modeled both sources as one point supports and endorses the option of both sources being able to emit a combined total of the amount of SO_2 which was modeled.

Response: EPA agrees that it is not necessary to prohibit simultaneous emissions from both emission points. Attainment of the SO_2 NAAQS would be assured so long as the combined emissions from both emission points do not exceed 75.0 pounds per 3-hour period. Since both emission points have methods for determining emissions, compliance with the emission limit would be assured. We are revising the regulatory text to eliminate the restriction on simultaneous emissions and any corresponding language. Additionally, in the final regulatory text we are clarifying the reporting

requirements to correspond to this change.

I. ExxonMobil Specific Issues

1. Coker CO Boiler

Comment (ExxonMobil): The proposed FIP would require that the Coker CO Boiler stack CEMS operate at all times. This is unnecessary because the Coker Process gas is exhausted through the nearby Yellowstone Energy Limited Partnership Co-Generation facility. During those hours, Coker CO Boiler stack SO_2 emissions are monitored by the existing fuel gas CEM for fuel gas combustion devices. The existing SO_2 SIP requires that a SO_2 CEMS be operated on the Coker CO Boiler stack during those few hours that the Coker Process Gas is exhausted through the Coker CO Boiler and stack. Given that a CEMS is already required for this source, nothing is served by requiring ExxonMobil to report the emissions and compliance assurance data for this source to both EPA and MDEQ. Nothing is served by requiring ExxonMobil to notify both EPA and MDEQ of required Relative Accuracy Test Audits (RATA).

Response: It was not EPA's intent to require that the Coker CO Boiler stack CEMS be operated at all times. Our intent was to clarify that the Coker CO Boiler CEMS already installed, in conjunction with the appropriate equations, must be used to determine compliance with the emission limits established in section 3(B)(1) of ExxonMobil's 2000 exhibit.

We are clarifying the FIP to indicate that the Coker CO Boiler CEMS only needs to be operating when ExxonMobil's Coker unit is operating and Coker unit flue gases are exhausted through the Coker CO Boiler stack. We are also clarifying that whenever ExxonMobil's Coker unit is operating and Coker unit flue gases are exhausted through the Coker CO Boiler stack, the CEMS shall immediately be operational. Also, with respect to the SO_2 CEMS, we indicate that ExxonMobil shall perform a Cylinder Gas Audit (CGA) or Relative Accuracy Audit (RAA), which meets the requirements of 40 CFR part 60, Appendix F, within 8 hours of when the Coker unit flue gases begin exhausting through the Coker CO Boiler stack. Finally, for both the SO_2 and flow CEMS, we indicate that ExxonMobil shall perform an annual RATA, on the CEMS.

Because we will have primary responsibility to enforce the FIP, we have retained the requirements that ExxonMobil submit emissions and compliance assurance data to both EPA and MDEQ and notify EPA and MDEQ of RATAs.

2. Tutwiler Analysis

Comment (ExxonMobil): The proposed FIP would require that ExxonMobil measure the H_2S concentration of the fuel gas once every three hours using the Tutwiler method contained in 40 CFR 60.648 any time the refinery fuel gas H_2S CEMS measures a concentration of greater than 1200 ppmv. The proposed once per 3-hour Tutwiler analysis is less protective than the existing requirement identified in the alternative monitoring plan (AMP) submitted to DEQ. The AMP requires measurement of the fuel gas H_2S concentration with Dräger tubes on an hourly basis anytime the fuel gas H_2S CEMS data are expected to be unavailable for any reason for more than one 3-hour block.

Response: In our proposed FIP, EPA proposed a method for determining H_2S concentrations when the range of the H_2S CEMS is exceeded. ExxonMobil commented that they currently use another method for determining H_2S concentrations when the H_2S CEMS is not available. This other method has been identified in an AMP submitted to DEQ (reference document JJJJJJ). Since ExxonMobil already has procedures established for determining H_2S concentrations when the H_2S CEMS is not available, namely, the use of Dräger Tubes, a type of length-of-stain detector tube, and since length-of-stain detector tubes are widely-used and reliable, EPA is revising its FIP to incorporate the other method identified by ExxonMobil.

Specifically, we are revising the FIP to indicate that when the H_2S concentration in the refinery fuel gas exceeds 1200 ppmv as measured by the H_2S CEMS, ExxonMobil shall measure the H_2S concentration on an hourly basis using length-of-stain detector tubes pursuant to ASTM Method D4810–06, ''Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length-of-Stain Detector Tubes.'' The length-of-stain detector tubes shall have the appropriate sample tube range. If the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range. The hourly length-of-stain detector tubes data will then be used to calculate SO_2 emissions from refinery fuel gas combustion and to determine compliance with the emission limits in 40 CFR 52.1392(f)(3)(i).

3. ExxonMobil Emissions

Comment (YVAS): The question must be asked that since ExxonMobil's emissions are appreciably higher than its two closest competitors, that a significant lowering in total SO_2 emissions in the Yellowstone Valley could be attained if ExxonMobil would be required to use that equipment under either Federal EPA standards or under the State of Montana emissions requirements as well. That there is no requirement to insist that ExxonMobil use equipment/refining processes that would lower its future SO_2 emissions is a deplorable lack of public concern to YVAS' best interests and should be publicly examined by the EPA.

Response: EPA acknowledges this comment. See response to comment II.F.8., above.

J. CHS Inc. Specific Issues

Particulate Issues

Comment (YVAS): YVAS is concerned that the Coker production unit at CHS Inc. will not have to provide a containment system shielding the nearby area from the effects of particulate pollution. This is a deplorable lack of proper protection of the public and, although addressing this particular issue was apparently not important to this FIP, since it was completely omitted from this FIP, either through oversight or deliberate omission, YVAS seeks a ruling from the EPA that could require CHS, Inc. to address this issue and provide relief to the public from this oversight.

Response: EPA acknowledges the comment. However, the FIP addresses only the provisions of the SO_2 SIP that we disapproved. Under CAA section 110(c), EPA's authority is to remedy the deficiencies we identified in the SO_2 SIP.

III. Summary of the Final Rules and Changes From the July 12, 2006, Proposal

The following summarizes the final FIP and the major changes from our July 12, 2006, FIP proposal. Generally, the reasons for the changes made in the final FIP appear in section II, above, ''Issues Raised by Commenters and EPA's Response.'' In some cases, the reasons appear below. We also describe some minor changes to the FIP in this section.

A. Flare Requirements Applicable to All Sources

Since the State's attainment demonstration assumed that the main flares at each source were limited to 150 pounds of SO_2 per 3-hour period, and that the Jupiter Sulfur SRU flare would share an emission limit of 75 pounds of SO_2 per 3-hour period with the Jupiter

Sulfur SRU/ATS [14] stack, we proposed flare emission limits that reflected the State's assumption that emissions from these points would not exceed these levels. While we proposed that 150 pounds of SO_2 per 3-hour period be the limit for the main flares, we also solicited input on whether we should instead limit the main flares to 500 pounds of SO_2 per calendar day. The final FIP requires that the main flares at each source be limited to 150 pounds of SO_2 per 3-hour period and that the Jupiter Sulfur flare share an emission limit of 75 pounds of SO_2 per 3-hour period with the Jupiter Sulfur SRU/ATS stack.

We also proposed that the flare limits would apply at all times without exception. We also solicited comment on whether it would be appropriate to include in our final FIP the ability to assert an affirmative defense to penalties only (not injunctive relief) for violations of the flare limits. Under the final FIP, flare limits apply at all times. However, we have changed the proposed rule to provide the ability for sources to assert an affirmative defense to penalties only (not injunctive relief) for violations of the flare limits. The affirmative defense provision includes notification requirements that are distinct from the FIP's quarterly reporting requirements.

We proposed that compliance with the flare emission limits would be determined by continuous measurement of the total sulfur concentration and volumetric flow rate of the gas stream to the flare(s), followed by calculation, using appropriate equations, of SO_2 emitted per 3-hour period.

We proposed that sources install, calibrate, maintain, and operate a continuous flow monitoring system capable of measuring the total volumetric flow of the gas stream combusted in a flare in accordance with the specifications described below. We indicated that the flow monitoring system could require one or more flow monitoring devices or flow measurements at one or more header locations if one monitor could not measure all of the volumetric flow to a flare.

We proposed the following volumetric flow monitoring specifications:

(1) The minimum detectible velocity of the flow monitoring device(s) would be 0.1 feet per second (fps);

(2) The device(s) would continuously measure the range of flow rates corresponding to velocities from 0.5 to 275 fps and have a manufacturer's specified accuracy of ± 5% over the range of 1 to 275 fps;

(3) For correcting flow rate to standard conditions (defined as 68°F and 760 millimeters of mercury (mmHg)), temperature and pressure would be monitored continuously;

(4) The temperature and pressure would be monitored in the same location as the flow monitoring device(s) and be calibrated to meet accuracy specifications as follows: Temperature would be calibrated annually to within ± 2.0% at absolute temperature and the pressure monitor would be calibrated annually to within ± 5.0 mmHg;

(5) Flow monitoring device(s) would be calibrated prior to installation to demonstrate accuracy to within 5.0% at flow rates equivalent to 30%, 60%, and 90% of monitor full scale; and

(6) After installation, the flow monitoring devices would be calibrated annually according to manufacturer's specifications.

The final FIP flow monitoring provisions are the same as proposed except that we are revising the following provisions:

(1) With respect to the accuracy of the flow monitor, the final FIP indicates that the device(s) shall continuously measure the range of flow rates corresponding to velocities from 0.5 to 275 fps and have a manufacturer's specified accuracy of ± 5% of the measured flow over the range of 1 to 275 fps and ± 20% of the measured flow over the range of 0.1 to 1.0 fps.

(2) With respect to measurement of volumetric flow rate, the final FIP indicates that volumetric flow rate shall be measured on an actual wet basis and converted to standard conditions, and reported in SCFH.

(3) With respect to temperature and pressure monitors, the final FIP indicates that temperature and pressure monitors should be calibrated prior to installation according to manufacturer's specifications. We inadvertently omitted this requirement in our proposal.

We proposed that in cases where the flow to the flare exceeds the range of the monitor, other methods could be used to determine the volumetric flow rate. In the final FIP, we have clarified this provision to read that in cases when the volumetric flow monitor is not working or where the flow exceeds the range of the monitor, methods established in the flare monitoring plan required by the FIP shall be used to determine the volumetric flow rate to the flare, which shall then be used to calculate SO_2 emissions. Additionally, we have revised the quarterly reporting requirements to be consistent with these changes. The final FIP now indicates that in quarterly reports, sources shall indicate the date and time when a monitor is not working or the range is exceeded, and the other methods used to determine flare emissions. We have made these revisions to the final FIP so that these provisions are consistent with what we require in the flare monitoring plan.

The final FIP also adds the ability for sources to use means other than the flow monitor to determine that the flare is not operating when the flow monitor registers low flow. Specifically, the final FIP allows sources to use devices that monitor the integrity of the flare water seal. If these devices indicate that no flow is going to the flare, yet the flow monitor indicates there is flow, the presumption will be that no flow is going to the flare. We have also revised the flare monitoring plan and reporting requirements to recognize the use of, and require reporting on, these other flare flow devices.

We proposed that sources install, calibrate, maintain, and operate an on-line analyzer system capable of continuously determining the total sulfur concentration of the gas stream sent to a flare. We proposed that the continuous monitoring occur at a location or locations that are representative of the gas combusted in the flare and be capable of measuring the expected range of total sulfur in the gas stream to the flare. We proposed that the total sulfur analyzer be installed, certified (on a concentration basis), and operated in accordance with 40 CFR part 60, Appendix B, Performance Specification 5, and be subject to and meet the quality assurance and quality control requirements (on a concentration basis) of 40 CFR part 60, Appendix F. Additionally, we proposed that sources notify EPA in writing of each Relative Accuracy Test Audit (RATA) a minimum of 25 working days prior to the actual testing. In the final FIP, we are retaining the above provisions, but are allowing the use of other methods to determine total sulfur concentration. See discussion below. The final FIP also clarifies that the total sulfur concentration monitor should measure in the range of concentrations that are normally present in the gas stream to the flare.

In the final FIP, we are adding provisions that indicate that, in cases when the total sulfur analyzer is not working or where the concentration of the total sulfur exceeds the range of the monitor, methods established in the flare monitoring plan required by the FIP shall be used to determine the total sulfur concentrations, which shall than

[14] ATS stands for Ammonium Thiosulfate.

be used to calculate SO_2 emissions. Additionally, the final FIP indicates that in quarterly reports, sources shall indicate the date and time when a monitor is not working, or the range is exceeded, and the other methods used to determine flare emissions. We have made this addition to the FIP so that these provisions are consistent with what we require in the flare monitoring plan.

In lieu of continuous total sulfur concentration analyzers, the final FIP allows sources to determine the total sulfur concentration through grab or integrated sampling. If a source chooses to use one of these methods, the final FIP provides a trigger by which sources must begin the sampling and indicates the analytical methods to be used to determine the total sulfur concentration in the sample. The final FIP also provides that in cases where a grab or integrated sample is not obtained or analyzed, methods established in the flare monitoring plan required by the FIP shall be used to determine total sulfur concentrations, which will then be used to calculate SO_2 emissions. The flare monitoring plan and reporting requirements have also been revised to recognize the potential use of grab or integrated sampling.

We proposed that within 180 days after receiving EPA approval of the flare monitoring plan, sources install and calibrate, and thereafter calibrate, maintain, and operate continuous flow monitors and total sulfur concentration analyzers. The final FIP has been revised to allow sources 365 days after receiving EPA approval of the flare monitoring plan to install and calibrate, and thereafter calibrate, maintain, and operate the continuous volumetric flow monitors and to start determining total sulfur concentrations of the gas stream by either continuous total sulfur concentration analyzers or grab or integrated sampling monitoring.

We proposed that each facility submit a flare monitoring plan including, among other things, information regarding pilot and purge gas at each flare and how the concentration and volumetric flow monitors would analyze the pilot and purge gases. The final FIP indicates that if the facility certifies that only natural gas or an inert gas is used as pilot and/or purge gas, monitoring the stream(s) consisting of only natural gas or inert gas is not required. However, if natural gas or inert gas is not used for pilot and/or purge gas, then the source must measure the flow and H_2S concentration of the gas streams that do not consist of only natural gas or inert gas or use other methods approved by EPA in the flare monitoring plan to estimate flow and H_2S concentration. Pilot and purge gas SO_2 emissions will then be calculated and added to the other SO_2 emissions from the flare to determine compliance with the SO_2 flare emission limits. We have revised the reporting requirements accordingly to require sources to either: (1) Certify in the quarterly reports if pilot and/or purge gas is not monitored because only natural gas or inert gas is used as the pilot and/or purge gas; or (2) report flow, H_2S concentration of, and SO_2 emissions from, the pilot and/or purge gas.

We also added provisions that indicate that in cases when any pilot or purge gas flow monitor or H_2S analyzer is not working, or where the flow or concentration of the H_2S exceeds the range of the monitor or analyzer, methods established in the flare monitoring plan required by the FIP shall be used to determine the pilot and purge gas flow and/or H_2S concentrations, which shall then be used to calculate SO_2 emissions. The FIP indicates that in quarterly reports, sources shall indicate the date and time when a monitor or analyzer is not working, or the range is exceeded, and the other methods used to determine flare emissions.

The flare monitoring plan requirements have been revised to be consistent with the pilot and purge gas provisions described above.

We have added definitions of Aliquot, Integrated sampling, Pilot gas, and Purge gas to clarify the FIP's flare monitoring requirements. Finally, we proposed quarterly reporting requirements similar to the reporting requirements contained in the Billings/Laurel SO_2 SIP and those contained in 40 CFR 60.7(c). We added to the reporting requirements as necessary to address the changes to other requirements.

B. CHS Inc.

1. Flare Requirements

We proposed that CHS Inc.'s flare be limited to 150 pounds of SO_2 per 3-hour period and that compliance with the limit be determined as discussed above. The final FIP is the same as proposed except for the flare monitoring changes applicable to all sources mentioned above.

2. Combustion Sources Emission Limits

We proposed a prohibition in the FIP on the burning of SWS overheads in the main crude heater. We proposed that compliance with the prohibition to not burn SWS overheads in the main crude heater be determined by CHS Inc. installing a chain and lock on the valve that supplies sour water stripper overheads from the ''old'' SWS to the main crude heater to insure that the valve could not be opened. The proposed FIP also required CHS Inc. to maintain the chain and lock in place, keep the valve closed at all times, and log and report any noncompliance with this provision. The final FIP is the same as proposed.

C. ConocoPhillips

Flare Requirements

We proposed that ConocoPhillips's main flare be limited to 150 pounds of SO_2 per 3-hour period and that compliance with the limit be determined as discussed above. We also proposed that at any one time, ConocoPhillips could only use either the north or south main flare. The final FIP is the same as proposed except for the flare monitoring changes applicable to all sources mentioned above.

We proposed an emission limit of 75 pounds of SO_2 per 3-hour period for the Jupiter Sulfur SRU flare and SRU/ATS stack and that emissions could only be vented from the SRU flare when emissions were not being vented from the SRU/ATS stack. We proposed that compliance with the SRU flare emission limit, when Jupiter Sulfur vented emissions to the SRU flare rather than the SRU/ATS stack, be determined by measuring the total sulfur concentration and volumetric flow rate of the gas stream to the flare.[15] Our final FIP is the same as proposed except that we have removed the restriction that emissions could only be vented from the SRU flare when emissions were not being vented from the SRU/ATS stack. Our final FIP indicates that compliance with the combined emission limit be determined by summing the emissions from the Jupiter Sulfur SRU flare and SRU/ATS stack.

D. ExxonMobil

1. Flare Requirements

We proposed that ExxonMobil's primary process and turnaround flares be limited to 150 pounds of SO_2 per 3-hour period and that compliance with the limit be determined as discussed above. Our proposal indicated that we understood that the turnaround flare is only used about 30–40 days every 5 to 6 years and is not normally operating. Therefore, we proposed to establish one combined emission limit for the primary process and turnaround flares. Our

[15] Note that the SRU/ATS stack has an SO_2 CEMS and flow monitor to determine compliance when emissions are vented through that stack.

assumption was that the flow and concentration monitoring devices installed to measure the gas stream to the primary process flare would also be able to measure the gas stream to the turnaround flare. However, we indicated that if that was not the case, ExxonMobil could propose another method to determine emissions from the turnaround flare. The final FIP is the same as proposed except for the flare monitoring changes applicable to all sources mentioned above.

2. Compliance Monitoring of Refinery Fuel Gas Combustion Emission Limits

We proposed a method for measuring the H_2S concentrations in the refinery fuel gas when the H_2S concentrations in the refinery fuel gas exceed the range of the H_2S CEMS. The method we proposed is identical to the method included in CHS Inc.'s 1998 exhibit.[16]

Specifically, we proposed that within four hours of the initial determination that the H_2S concentrations in the refinery fuel gas stream exceed the upper range of the H_2S CEMS, ExxonMobil would have to initiate sampling of the refinery fuel gas stream at the fuel header on a once-per-3-hour-period frequency using the Tutwiler method in 40 CFR 60.648. The Tutwiler method determines the H_2S concentration in the refinery fuel gas. We also proposed that the Tutwiler-derived H_2S refinery fuel gas concentration be used in calculations to determine the hourly, 3-hour, and 24-hour SO_2 emission rates, in pounds, from refinery fuel gas combustion. These emission rates would then be used to determine compliance with the refinery fuel gas combustion emission limits in ExxonMobil's 1998 and 2000 exhibits when the H_2S concentrations in the refinery fuel gas stream exceeded the upper range of the H_2S CEMS.[17]

In our final FIP we have revised the method by which ExxonMobil shall obtain the H_2S concentration of the refinery fuel gas when the H_2S concentrations in the refinery fuel gas exceed the range of the H_2S CEMS. Specifically, our final FIP indicates that within four hours after the H_2S CEMS measures an H_2S concentration in the fuel gas stream greater than 1200 ppmv, ExxonMobil shall initiate sampling of the fuel gas stream at the fuel header on a once-per-hour-period frequency using length-of-stain detector tubes with the appropriate sample tube range. If the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range. ExxonMobil shall continue to use the length-of-stain detector tube method at this frequency until the H_2S CEMS measures an H_2S concentration in the fuel gas stream equal to or less than 1200 ppmv continuously over a 3-hour period. We also revised the equation used to calculate the SO_2 emissions because of the change in the H_2S analysis method.

We proposed reporting requirements similar to the requirements adopted by the State for CHS Inc. and those contained in 40 CFR 60.7(c). We added a provision that requires ExxonMobil to report information for periods when the range of the refinery fuel gas CEMS is exceeded.

3. Compliance Monitoring of Coker CO Boiler Emission Limits

We proposed that existing SO_2 and flow CEMS, in conjunction with the appropriate calculations mentioned below, be used to determine compliance with the emission limits established in section 3(B)(1) of ExxonMobil's 2000 exhibit. Specifically, we proposed that at all times ExxonMobil operate and maintain CEMS to measure SO_2 concentrations from the Coker CO Boiler stack and a continuous stack flow rate monitor to measure stack gas flow rates from the Coker CO Boiler stack. We proposed that the SO_2 and flow rate CEMS meet the CEM Performance Specifications contained in sections 6(C) and (D), respectively, of ExxonMobil's 1998 exhibit, except that ExxonMobil would have to notify EPA in writing of each annual RATA a minimum of 25 working days prior to actual testing.

Our final FIP is the same as proposed except that we have deleted the requirement that the flow and SO_2 CEMS be operated at all times and added the requirement that whenever ExxonMobil's Coker unit is operating and Coker unit flue gases are exhausted through the Coker CO Boiler stack, the flow and SO_2 CEMS shall be immediately operational. We have also clarified that ExxonMobil shall meet the specifications contained in section 6(C) of ExxonMobil's 1998 exhibit, except that ExxonMobil shall perform a Cylinder Gas Audit (CGA) or Relative Accuracy Audit (RAA) which meets the requirements of 40 CFR part 60, Appendix F, within eight hours of when the Coker unit flue gases begin exhausting through the Coker CO Boiler stack and that ExxonMobil shall perform an annual RATA on the flow and SO_2 CEMS.

We proposed that compliance with ExxonMobil's Coker CO Boiler emission limits[18] be determined using the data from the CEMS mentioned above and in accordance with the appropriate calculations described in ExxonMobil's 1998 exhibit.[19] We also proposed reporting requirements similar to the requirements adopted in the Billings/Laurel SO_2 SIP and those contained in 40 CFR 60.7(c). Our final FIP is the same as proposed, except as noted above.

E. Montana Sulphur & Chemical Company (MSCC)

1. Flare Requirements

We proposed that MSCC's 80-foot west flare, 125-foot east flare, and 100-meter flare be limited to 150 pounds of SO_2 per 3-hour period combined total and that compliance with the limit be determined as discussed above. Our final FIP is the same as proposed except for the flare monitoring changes applicable to all sources mentioned above.

2. SRU 100-Meter Stack

We proposed the following emission limits for the SRU 100-meter stack: Emissions of SO_2 not to exceed (a) 3,003.1 pounds per 3-hour period, (b) 24,025.0 pounds per calendar day, and (c) 9,088,000.0 pounds per calendar year. Our final FIP is the same as proposed except that the 3-hour and calendar day emission limits have been slightly reduced due to minor corrections in the modeling. The final FIP emission limits for the SRU 100-meter stack are as follows: Emissions of SO_2 shall not exceed (a) 2981.7 pounds per 3-hour period, (b) 23,853.6 pounds per calendar day, and (c) 9,088,000.0 pounds per calendar year

We proposed that compliance with the above emission limits be determined according to the methods established in MSCC's 1998 exhibit. Finally, we proposed quarterly reporting requirements similar to the reporting requirements contained in the Billings/Laurel SO_2 SIP and those contained in 40 CFR 60.7(c). Our final FIP is the same as proposed, except as noted above.

3. SRU 30-Meter Stack

We proposed the following mass emission limits for the 30-meter stack: Emissions of SO_2 not to exceed: (a) 12.0 pounds per 3-hour period, (b) 96.0

[16] See section 6(B)(3) of CHS Inc.'s 1998 exhibit. (See reference document DD for a copy of the exhibit.)

[17] See sections 3(A)(1) and 3(B)(2) of ExxonMobil's 1998 and 2000 exhibits. (See reference documents GG and HH for copies of the exhibits.)

[18] See section 3(B)(1) of ExxonMobil's 2000. (*See* reference document HH for a copy of the exhibit.)

[19] See sections 2(A)(1), (8), (11)(a), and (16) of ExxonMobil's 1998 exhibit. (*See* reference document GG for a copy of the exhibit.)

pounds per calendar day, and (c) 35,040 pounds per calendar year. The mass emission limits remain the same as proposed.

We proposed that H_2S concentrations in the fuel burned in the boilers and heaters, while any boiler or heater was exhausting through the SRU 30-meter stack, be limited to 100 ppm of H_2S or less, averaged over a 3-hour period. While we proposed the foregoing approach for determining compliance with the SRU 30-meter stack emission limits, we also solicited input on whether we should promulgate a different compliance determining method.

In our final FIP, we are keeping the simplified method to determine compliance with mass emission limits. However, we are increasing the H_2S concentration limit to 160 ppm/3-hour period and adding a calendar day H_2S concentration limit of 100 ppm.

We proposed that the H_2S concentration in the fuel be measured using a portable H_2S monitor. In our final FIP, we have revised the method by which MSCC shall determine the H_2S content of the fuel burned. Specifically, our final FIP indicates that MSCC shall determine the H_2S content of the fuel burned using length-of-stain detector tubes with the appropriate sample tube range. The final FIP indicates that if the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range.

Finally, we proposed quarterly reporting requirements. The quarterly reporting requirements are similar to the reporting requirements contained in the Billings/Laurel SO_2 SIP and those contained in 40 CFR 60.7(c). Our final FIP is the same as proposed, except as needed to address the changes noted above.

4. Combined SO_2 Emission Limit From the Auxiliary Vent Stacks

We proposed the following mass emission limits for the auxiliary vent stacks: emissions of SO_2 not to exceed: (a) 12.0 pounds per 3-hour period, (b) 96.0 pounds per calendar day, and (c) 35,040 pounds per calendar year. The mass emission limits remain the same as proposed. In our proposal, we indicated that the issues associated with monitoring compliance with these limits were essentially the same as those associated with monitoring compliance with the SRU 30-meter stack emission limits. Thus, we proposed the same approach for monitoring compliance with these emission limits as we describe in section III.E.3, above. Similarly, we solicited input on whether we should promulgate a different compliance determining method.

In our final FIP, we are keeping the simplified method to determine compliance with mass emission limits. However, we are increasing the H_2S concentration limit to 160 ppm/3-hour period and adding a calendar day H_2S concentration limit of 100 ppm.

We proposed that the H_2S concentration in the fuel be measured using a portable H_2S monitor. In our final FIP we have revised the method by which MSCC shall determine the H_2S content of the fuel burned. Specifically, our final FIP indicates that MSCC shall determine the H_2S content of the fuel burned using length-of-stain detector tubes with the appropriate sample tube range. The final FIP indicates that if the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range.

Finally, we proposed quarterly reporting requirements similar to reporting requirements contained in the Billings/Laurel SO_2 SIP and those contained in 40 CFR 60.7(c). Our final FIP is the same as proposed, except as noted above.

F. Modeling To Support Emission Limits

Our proposal discussed the modeling conducted to support the emission limits proposed for MSCC's SRU 100-meter stack. EPA received comments regarding our modeling files that identified the need for minor technical corrections to those files. In response to several of these comments, EPA has revised its modeling files, as necessary, to omit extraneous information, add information that was inadvertently omitted, make minor corrections, or otherwise clarify the files. EPA does not consider any of the revisions to be significant. The only change with any substantive impact—the correction to the coordinates for MSCC described below—results in a very slight decrease in our proposed emission limit for MSCC's 100-meter stack from 126.13 g/second to125.23 g/second, less than a 1 percent change. The specific changes EPA has made are as follows:

(1) A commenter recommended that the modeling files contain a more complete description of the naming convention and purpose behind each modeling effort.

EPA changes: To improve documentation, some extraneous modeling files have been removed and a text file added to explain the naming conventions. The naming conventions, typically used by modelers, help define the purpose behind each modeling effort.

(2) One commenter indicated that only proper geographical coordinates should be used as inputs to the dispersion modeling. Commenters indicated that the location of the small boiler stacks at MSCC that were modeled as volume sources was incorrect.

EPA changes: We have corrected the incorrect source coordinate for MSCC's boiler stacks in the modeling files.

(3) One commenter indicated that three source input files were not included in reference document EEE.

EPA change: We have added the three source input files to the compact disk containing the modeling files.

(4) One commenter indicated that a source input file (*ref-5t.sri*) was included in reference document EEE but did not appear to be used in any input and output files.

EPA change: This was a test file that we inadvertently included and have now deleted.

On July 13, 2007, the revised modeling files were indexed in the electronic docket contained on *http://www.regulations.gov* and a compact disk containing the modeling files was placed in the docket for this action. See reference document FFFFF.

Also, as noted above, with respect to the 30-meter stack and auxiliary vent stacks, we are keeping the simplified method to determine compliance with the mass emission limits. However, we are increasing the H_2S concentration limit to 160 ppm/3-hour period and adding a calendar day H_2S concentration limit of 100 ppm. The mass emission limits remain the same as proposed.

We remodeled the area assuming the emissions were 1.01 g/s from the 30-meter stack and auxiliary vent stacks. We derived the higher emission value from the same assumptions and calculations expressed in our proposal, except we assumed a maximum H_2S concentration of 160 ppm (see 71 FR 39259, 39268, July 12, 2006). At the higher 3-hour emissions, the area would still show attainment of the 3-hour SO_2 NAAQS. However, the area would not show attainment of the 24-hour SO_2 NAAQS if all 8 3-hour periods in a calendar day were at the 160 ppm level. Therefore, we are revising the FIP to indicate that the H_2S concentration in the fuel burned in the heaters and boilers, while any of the heaters and boilers are exhausting to the SRU 30-meter stack or auxiliary vents stacks, shall not exceed 160 ppm per 3-hour period and 100 ppm per calendar day. The revised modeling files are indexed in the electronic docket contained on *http://www.regulations.gov,* and a

compact disk containing the modeling files was placed in the docket for this action. See reference document KKKKKK.

IV. Statutory and Executive Order Reviews

A. Executive Order 12866, Regulatory Planning and Review

Under Executive Order 12866, 58 FR 51735 (October 4, 1993), all ''regulatory actions'' that are ''significant'' are subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. A ''regulatory action'' is defined as ''any substantive action by an agency (normally published in the **Federal Register**) that promulgates or is expected to result in the promulgation of a final rule or regulation, including * * * notices of proposed rulemaking.'' A ''regulation or rule'' is defined as ''an agency statement of general applicability and future effect, * * * ''

The FIP is not subject to OMB review under E.O. 12866 because it applies to only four specifically named facilities, with requirements unique to each facility, and is, therefore, not a rule of general applicability. Thus, it is not a ''regulatory action'' under E.O. 12866 and was not submitted to OMB for review.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* Burden is defined at 5 CFR 1320.3(b). Under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*, OMB must approve all ''collections of information'' by EPA. The Act defines ''collection of information'' as a requirement for ''answers to * * * identical reporting or recordkeeping requirements imposed on ten or more persons * * * '' 4 U.S.C. 3502(3)(A). Because the FIP only applies to four companies, the Paperwork Reduction Act does not apply.

C. Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA), 5 U.S.C. section 601 *et seq.,* EPA generally must prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements unless EPA certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions. 5 U.S.C. 603, 604, and 605(b).

This FIP will not have a significant economic impact on a substantial number of small entities because this FIP applies to only four sources (CHS Inc., ConocoPhillips, ExxonMobil and MSCC) in the Billings/Laurel, Montana area. Therefore, I certify that this action will not have a significant economic impact on a substantial number of small entities.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995, Public Law 04 4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of UMRA, EPA generally must prepare a written statement, including a cost benefit analysis, for proposed rules and for final rules with ''Federal mandates'' that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that might significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

EPA has determined that this rule does not contain a Federal mandate that may result in the expenditure of $100 million for State, local and tribal governments, in the aggregate, or the private sector in any one year. The FIP does not impose any enforceable duties on state, local, or tribal governments. Although the FIP would impose enforceable duties on entities in the private sector, the costs are expected to be less than $100 million in any one year. Thus, today's rule is not subject to the requirements of 202 and 205 of the UMRA.

EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments, because it imposes no requirements on small governments. Nor will the rule impact small governments in any significant or unique way. Thus, today's rule is not subject to the requirements of section 203 of the UMRA.

E. Executive Order 13132, Federalism

Executive Order, 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This rule establishes standards appropriate for four companies in the Billings/Laurel, Montana area, and, thus, does not directly affect any State or local government. It does not alter the relationship or the distribution of power and responsibilities established by the Clean Air Act. Thus, Executive Order 13132 does not apply to this rule.

F. Executive Order 13175, Coordination With Indian Tribal Governments

Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' This final rule does not have tribal implications, as specified in Executive Order 13175. It will not have substantial, direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the

Federal government and Indian tribes as specified in Executive Order 13175. This Action does not involve or impose any requirements that affect Indian Tribes. Thus, Executive Order 13175 does not apply to this rule.

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

Executive Order 13045: ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997), applies to any rule that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This FIP is not subject to the Executive Order because it is not economically significant as defined in Executive Order 12866. Further, EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This FIP is not subject to Executive Order 13045 because it implements a previously promulgated health and safety-based Federal standard.

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

This rule is not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

As noted in the proposed rule, Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995, Public Law No. 104–113 (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards (VCS) are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary standards.

This rulemaking involves technical standards. We have identified three VCS that can be used in lieu of EPA methods. The American Society for Testing and Materials (ASTM) Methods D4468–85 (Reapproved 2000) and D5504–01 (Reapproved 2006) are acceptable methods for determining total sulfur concentrations in the gas streams going to facility flares in lieu of using a continuous total sulfur analyzer in accordance with 40 CFR part 60, Appendix B, Performance Specification 5. ASTM Method D4810–06 is an acceptable method for determining the hydrogen sulfide concentration in ExxonMobil's refinery fuel gas in lieu of using the Tutwiler method described in 40 CFR 60.648. We are incorporating these methods by reference in 40 CFR 52.1392(j).

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

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

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. This final rule establishes emission limits and compliance determining methods at four sources in the Billings/Laurel, Montana area to assure that the SO_2 NAAQS are met.

K. Congressional Review Act

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

L. Petitions for Judicial Review

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by June 20, 2008. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See CAA section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: March 28, 2008.

Stephen L. Johnson,

Administrator.

■ For reasons stated in the preamble, 40 CFR part 52 is amended as follows:

PART 52—[AMENDED]

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

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

Subpart BB—Montana

■ 2. Subpart BB is amended by adding § 52.1392 to read as follows:

§ 52.1392 Federal Implementation Plan for the Billings/Laurel Area.

(a) *Applicability.* This section applies to the owner(s) or operator(s), including any new owner(s) or operator(s) in the

event of a change in ownership or operation, of the following facilities in the Billings/Laurel, Montana area: CHS Inc. Petroleum Refinery, Laurel Refinery, 803 Highway 212 South, Laurel, MT; ConocoPhillips Petroleum Refinery, Billings Refinery, 401 South 23rd St., Billings, MT; ExxonMobil Petroleum Refinery, 700 Exxon Road, Billings, MT; and Montana Sulphur & Chemical Company, 627 Exxon Road, Billings, MT.

(b) *Scope.* The facilities listed in paragraph (a) of this section are also subject to the Billings/Laurel SO_2 SIP, as approved at 40 CFR 52.1370(c)(46) and (52). In cases where the provisions of this FIP address emissions activities differently or establish a different requirement than the provisions of the approved SIP, the provisions of this FIP take precedence.

(c) *Definitions.* For the purpose of this section, we are defining certain words or initials as described in this paragraph. Terms not defined below that are defined in the Clean Air Act or regulations implementing the Clean Air Act, shall have the meaning set forth in the Clean Air Act or such regulations.

(1) *Aliquot* means a fractional part of a sample that is an exact divisor of the whole sample.

(2) *Annual Emissions* means the amount of SO_2 emitted in a calendar year, expressed in pounds per year rounded to the nearest pound, where:

Annual emissions = Σ Daily emissions within the calendar year.

(3) *Calendar Day* means a 24-hour period starting at 12 midnight and ending at 12 midnight, 24 hours later.

(4) *Clock Hour* means a twenty-fourth (1/24) of a calendar day; specifically any of the standard 60-minute periods in a day that are identified and separated on a clock by the whole numbers one (1) through 12.

(5) *Continuous Emission Monitoring System or CEMS* means all continuous concentration and volumetric flow rate monitors, associated data acquisition equipment, and all other equipment necessary to meet the requirements of this section for continuous monitoring.

(6) *Daily Emissions* means the amount of SO_2 emitted in a calendar day, expressed in pounds per day rounded to the nearest tenth (1/10) of a pound, where:

Daily emissions = Σ 3-hour emissions within a calendar day.

(7) *EPA* means the United States Environmental Protection Agency.

(8) *Exhibit* means for a given facility named in paragraph (a) of this section, exhibit A to the stipulation of the Montana Department of Environmental Quality and that facility, adopted by the Montana Board of Environmental Review on either June 12, 1998, or March 17, 2000.

(9) *1998 Exhibit* means for a given facility named in paragraph (a) of this section, the exhibit adopted by the Montana Board of Environmental Review on June 12, 1998.

(10) *2000 Exhibit* means for a given facility named in paragraph (a) of this section, the exhibit adopted by the Montana Board of Environmental Review on March 17, 2000.

(11) *Flare* means a combustion device that uses an open flame to burn combustible gases with combustion air provided by uncontrolled ambient air around the flame. This term includes both ground and elevated flares.

(12) The initials *Hg* mean mercury.

(13) *Hourly* means or refers to each clock hour in a calendar day.

(14) *Hourly Average* means an arithmetic average of all valid and complete 15-minute data blocks in a clock hour. Four (4) valid and complete 15-minute data blocks are required to determine an hourly average for each CEMS per clock hour.

Exclusive of the above definition, an hourly CEMS average may be determined with two (2) valid and complete 15-minute data blocks, for two (2) of the 24 hours in any calendar day. A complete 15-minute data block for each CEMS shall have a minimum of one (1) data point value; however, each CEMS shall be operated such that all valid data points acquired in any 15-minute block shall be used to determine the 15-minute block's reported concentration and flow rate.

(15) *Hourly Emissions* means the pounds per clock hour of SO_2 emissions from a source (including, but not limited to, a flare, stack, fuel oil system, sour water system, or fuel gas system) determined using hourly averages and rounded to the nearest tenth (1/10) of a pound.

(16) The initials H_2S mean hydrogen sulfide.

(17) *Integrated sampling* means an automated method of obtaining a sample from the gas stream to the flare that produces a composite sample of individual aliquots taken over time.

(18) The initials *MBER* mean the Montana Board of Environmental Review.

(19) The initials *MDEQ* mean the Montana Department of Environmental Quality.

(20) The initials *mm* mean millimeters.

(21) The initials *MSCC* mean the Montana Sulphur & Chemical Company.

(22) *Pilot gas* means the gas used to maintain the presence of a flame for ignition of gases routed to a flare.

(23) *Purge gas* means a continuous gas stream introduced into a flare header, flare stack, and/or flare tip for the purpose of maintaining a positive flow that prevents the formation of an explosive mixture due to ambient air ingress.

(24) The initials *ppm* mean parts per million.

(25) The initials *SCFH* mean standard cubic feet per hour.

(26) The initials *SCFM* mean standard cubic feet per minute.

(27) *Standard Conditions* means (a) 20 °C (293.2 °K, 527.7 °R, or 68.0 °F) and one (1) atmosphere pressure (29.92 inches Hg or 760 mm Hg) for stack and flare gas emission calculations, and (b) 15.6 °C (288.7 °K, 520.0 °R, or 60.3 °F) and one (1) atmosphere pressure (29.92 inches Hg or 760 mm Hg) for refinery fuel gas emission calculations.

(28) The initials SO_2 mean sulfur dioxide.

(29) The initials *SWS* mean sour water stripper.

(30) The term *3-hour emissions* means the amount of SO_2 emitted in each of the eight (8) non-overlapping 3-hour periods in a calendar day, expressed in pounds and rounded to the nearest tenth (1/10) of a pound, where:

3 hour emissions = Σ Hourly emissions within the 3-hour period.

(31) The term *3-hour period* means any of the eight (8) non-overlapping 3-hour periods in a calendar day: Midnight to 3 a.m., 3 a.m. to 6 a.m., 6 a.m. to 9 a.m., 9 a.m. to noon, noon to 3 p.m., 3 p.m. to 6 p.m., 6 p.m. to 9 p.m., 9 p.m. to midnight.

(32) *Turnaround* means a planned activity involving shutdown and startup of one or several process units for the purpose of performing periodic maintenance, repair, replacement of equipment, or installation of new equipment.

(33) *Valid* means data that are obtained from a monitor or meter serving as a component of a CEMS which meets the applicable specifications, operating requirements, and quality assurance and control requirements of section 6 of ConocoPhillips', CHS Inc.'s, ExxonMobil's, and MSCC's 1998 exhibits, respectively, and this section.

(d) *CHS Inc. emission limits and compliance determining methods.*

(1) *Introduction.* The provisions for CHS Inc. cover the following units:

(i) The flare.

(ii) Combustion sources, which consist of those sources identified in the

combustion sources emission limit in section 3(A)(1)(d) of CHS Inc.'s 1998 exhibit.

(2) *Flare requirements.*

(i) *Emission limit.* The total emissions of SO_2 from the flare shall not exceed 150.0 pounds per 3-hour period.

(ii) *Compliance determining method.* Compliance with the emission limit in paragraph (d)(2)(i) of this section shall be determined in accordance with paragraph (h) of this section.

(3) *Combustion sources.*

(i) *Restrictions.* Sour water stripper overheads (ammonia (NH_3) and H_2S gases removed from the sour water in the sour water stripper) shall not be burned in the main crude heater. At all times, CHS Inc. shall keep a chain and lock on the valve that supplies sour water stripper overheads from the old sour water stripper to the main crude heater and shall keep such valve closed.

(ii) *Compliance determining method.* CHS Inc. shall log and report any noncompliance with the requirements of paragraph (d)(3)(i) of this section.

(4) *Data reporting requirements.*

(i) CHS Inc. shall submit quarterly reports beginning with the first calendar quarter following May 21, 2008. The quarterly reports shall be submitted within 30 days of the end of each calendar quarter. The quarterly reports shall be submitted to EPA at the following address: Air Program Contact, EPA Montana Operations Office, Federal Building, 10 West 15th Street, Suite 3200, Helena, MT 59626.

The quarterly report shall be certified for accuracy in writing by a responsible CHS Inc. official. The quarterly report shall consist of both a comprehensive electronic-magnetic report and a written hard copy data summary report.

(ii) The electronic report shall be on magnetic or optical media, and such submittal shall follow the reporting format of electronic data being submitted to the MDEQ. EPA may modify the reporting format delineated in this section, and, thereafter, CHS Inc. shall follow the revised format. In addition to submitting the electronic quarterly reports to EPA, CHS Inc. shall also record, organize, and archive for at least five (5) years the same data, and upon request by EPA, CHS Inc. shall provide EPA with any data archived in accordance with this provision. The electronic report shall contain the following:

(A) Hourly average total sulfur concentrations as H_2S or SO_2 in ppm in the gas stream to the flare;

(B) Hourly average H_2S concentrations of the flare pilot and purge gases in ppm;

(C) Hourly average volumetric flow rates in SCFH of the gas stream to the flare;

(D) Hourly average volumetric flow rates in SCFH of the flare pilot and purge gases;

(E) Hourly average temperature (in °F) and pressure (in mm or inches of Hg) of the gas stream to the flare;

(F) Hourly emissions from the flare in pounds per clock hour; and

(G) Daily calibration data for all flare, pilot gas, and purge gas CEMS.

(iii) The quarterly written report shall contain the following information:

(A) The 3-hour emissions in pounds per 3-hour period from each flare;

(B) Periods in which only natural gas or an inert gas was used as flare pilot gas or purge gas or both;

(C) The results of all quarterly Cylinder Gas Audits (CGA), Relative Accuracy Audits (RAA), and annual Relative Accuracy Test Audits (RATA) for all total sulfur analyzer(s) and H_2S analyzer(s), and the results of all annual calibrations and verifications for the volumetric flow, temperature, and pressure monitors;

(D) For all periods of flare volumetric flow rate monitoring system or total sulfur analyzer system downtime, flare pilot gas or purge gas volumetric flow or H_2S analyzer system downtime, or failure to obtain or analyze a grab or integrated sample, the written report shall identify:

(*1*) Dates and times of downtime or failure;

(*2*) Reasons for downtime or failure;

(*3*) Corrective actions taken to mitigate downtime or failure; and

(*4*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(E) For all periods that the range of the flare or any pilot or purge gas volumetric flow rate monitor(s), any flare total sulfur analyzer(s), or any pilot or purge gas H_2S analyzer(s) is exceeded, the written report shall identify:

(*1*) Date and time when the range of the volumetric flow monitor(s), total sulfur analyzer(s), or H_2S analyzer(s) was exceeded; and

(*2*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(F) For all periods that the flare volumetric flow monitor or monitors are recording flow, yet any Flare Water Seal Monitoring Device indicates there is no flow, the written report shall identify:

(*1*) Date, time, and duration when the flare volumetric flow monitor(s) recorded flow, yet any Flare Water Seal Monitoring Device indicated there was no flow;

(G) For each 3-hour period in which the flare emission limit is exceeded, the written report shall identify:

(*1*) The date, start time, and end time of the excess emissions;

(*2*) Total hours of operation with excess emissions, the hourly emissions, and the 3-hour emissions;

(*3*) All information regarding reasons for operating with excess emissions; and

(*4*) Corrective actions taken to mitigate excess emissions;

(H) The date and time of any noncompliance with the requirements of paragraph (d)(3)(i) of this section; and

(I) When no excess emissions have occurred or the continuous monitoring system(s) or manual system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(e) *ConocoPhillips emission limits and compliance determining methods.*

(1) *Introduction.* The provisions for ConocoPhillips cover the following units:

(i) The main flare, which consists of two flares—the north flare and the south flare—that are operated on alternating schedules. These flares are referred to herein as the north main flare and south main flare, or generically as the main flare.

(ii) The Jupiter Sulfur SRU flare, which is the flare at Jupiter Sulfur, ConocoPhillips' sulfur recovery unit.

(2) *Flare requirements.*

(i) *Emission limits.*

(A) Combined emissions of SO_2 from the main flare (which can be emitted from either the north or south main flare, but not both at the same time) shall not exceed 150.0 pounds per 3-hour period.

(B) Emissions of SO_2 from the Jupiter Sulfur SRU flare and the Jupiter Sulfur SRU/ATS stack (also referred to as the Jupiter Sulfur SRU stack) shall not exceed 75.0 pounds per 3-hour period, 600.0 pounds per calendar day, and 219,000 pounds per calendar year.

(ii) *Compliance determining method.*

(A) Compliance with the emission limit in paragraph (e)(2)(i)(A) of this section shall be determined in accordance with paragraph (h) of this section. In the event that a single monitoring location cannot be used for both the north and south main flare, ConocoPhillips shall monitor the flow and measure the total sulfur concentration at more than one location in order to determine compliance with the main flare emission limit. ConocoPhillips shall log and report any instances when emissions are vented

from the north main flare and south main flare simultaneously.

(B) Compliance with the emission limits and requirements in paragraph (e)(2)(i)(B) of this section shall be determined by summing the emissions from the Jupiter Sulfur SRU flare and SRU/ATS stack. Emissions from the Jupiter Sulfur SRU flare shall be determined in accordance with paragraph (h) of this section and the emissions from the Jupiter Sulfur SRU/ATS stack shall be determined pursuant to ConocoPhillips' 1998 exhibit (see section 4(A) of the exhibit).

(3) *Data reporting requirements.*

(i) ConocoPhillips shall submit quarterly reports on a calendar year basis, beginning with the first calendar quarter following May 21, 2008. The quarterly reports shall be submitted within 30 days of the end of each calendar quarter. The quarterly reports shall be submitted to EPA at the following address: Air Program Contact, EPA Montana Operations Office, Federal Building, 10 West 15th Street, Suite 3200, Helena, MT 59626.

The quarterly report shall be certified for accuracy in writing by a responsible ConocoPhillips official. The quarterly report shall consist of both a comprehensive electronic-magnetic report and a written hard copy data summary report.

(ii) The electronic report shall be on magnetic or optical media, and such submittal shall follow the reporting format of electronic data being submitted to the MDEQ. EPA may modify the reporting format delineated in this section, and, thereafter, ConocoPhillips shall follow the revised format. In addition to submitting the electronic quarterly reports to EPA, ConocoPhillips shall also record, organize, and archive for at least five (5) years the same data, and upon request by EPA, ConocoPhillips shall provide EPA with any data archived in accordance with this provision. The electronic report shall contain the following:

(A) Hourly average total sulfur concentrations as H_2S or SO_2 in ppm in the gas stream to the ConocoPhillips main flare and Jupiter Sulfur SRU flare;

(B) Hourly average H_2S concentrations of the ConocoPhillips main flare and Jupiter Sulfur SRU flare pilot and purge gases in ppm;

(C) Hourly average volumetric flow rates in SCFH of the gas streams to the ConocoPhillips main flare and Jupiter Sulfur SRU flare;

(D) Hourly average volumetric flow rates in SCFH of the ConocoPhillips main flare and Jupiter Sulfur SRU flare pilot and purge gases;

(E) Hourly average temperature (in °F) and pressure (in mm or inches of Hg) of the gas streams to the ConocoPhillips main flare and Jupiter Sulfur SRU flare;

(F) Hourly emissions in pounds per clock hour from the ConocoPhillips main flare and Jupiter Sulfur SRU flare; and

(G) Daily calibration data for all flare, pilot gas, and purge gas CEMS.

(iii) The quarterly written report shall contain the following information:

(A) The 3-hour emissions in pounds per 3-hour period from the ConocoPhillips main flare and the sum of the combined 3-hour emissions from the Jupiter Sulfur SRU/ATS stack and Jupiter Sulfur SRU flare in pounds per 3-hour period;

(B) Periods in which only natural gas or an inert gas was used as flare pilot gas or purge gas or both;

(C) The results of all quarterly Cylinder Gas Audits (CGA), Relative Accuracy Audits (RAA), and annual Relative Accuracy Test Audits (RATA) for all total sulfur analyzer(s) and H_2S analyzer(s), and the results of all annual calibrations and verifications for the volumetric flow, temperature, and pressure monitors;

(D) For all periods of flare volumetric flow rate monitoring system or total sulfur analyzer system downtime, flare pilot gas or purge gas volumetric flow or H_2S analyzer system downtime, or failure to obtain or analyze a grab or integrated sample, the written report shall identify:

(*1*) Dates and times of downtime or failure;

(*2*) Reasons for downtime or failure;

(*3*) Corrective actions taken to mitigate downtime or failure; and

(*4*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(E) For all periods that the range of the flare or any pilot or purge gas volumetric flow rate monitor(s), any flare total sulfur analyzer(s), or any pilot or purge gas H_2S analyzer(s) is exceeded, the written report shall identify:

(*1*) Date and time when the range of the volumetric flow monitor(s), total sulfur analyzer(s), or H_2S analyzer(s) was exceeded, and

(*2*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(F) For all periods that the flare volumetric flow monitor or monitors are recording flow, yet any Flare Water Seal Monitoring Device indicates there is no flow, the written report shall identify:

(*1*) Date, time, and duration when the flare volumetric flow monitor(s) recorded flow, yet any Flare Water Seal Monitoring Device indicated there was no flow;

(G) Identification of dates, times, and duration of any instances when emissions were vented from the north and south main flares simultaneously;

(H) For each 3-hour period in which a flare emission limit is exceeded, the written report shall identify:

(*1*) The date, start time, and end time of the excess emissions;

(*2*) Total hours of operation with excess emissions, the hourly emissions, and the 3-hour emissions;

(*3*) All information regarding reasons for operating with excess emissions; and

(*4*) Corrective actions taken to mitigate excess emissions; and

(I) When no excess emissions have occurred or the continuous monitoring system(s) or manual system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(f) *ExxonMobil emission limits and compliance determining methods.*

(1) *Introduction.* The provisions for ExxonMobil cover the following units:

(i) The Primary process flare and the Turnaround flare. The Primary process flare is the flare normally used by ExxonMobil. The Turnaround flare is the flare ExxonMobil uses for about 30 to 40 days every 5 to 6 years when the facility's major SO_2 source, the fluid catalytic cracking unit, is not normally operating.

(ii) The following refinery fuel gas combustion units: The FCC CO Boiler, F–2 crude/vacuum heater, F–3 unit, F–3X unit, F–5 unit, F–700 unit, F–201 unit, F–202 unit, F–402 unit, F–551 unit, F–651 unit, standby boiler house (B–8 boiler), and Coker CO Boiler (only when the Yellowstone Energy Limited Partnership (YELP) facility is receiving ExxonMobil Coker unit flue gas or whenever the ExxonMobil Coker is not operating).

(iii) Coker CO Boiler stack.

(2) *Flare requirements.*

(i) *Emission limit.* The total combined emissions of SO_2 from the Primary process and Turnaround refinery flares shall not exceed 150.0 pounds per 3-hour period.

(ii) *Compliance determining method.* Compliance with the emission limit in paragraph (f)(2)(i) of this section shall be determined in accordance with paragraph (h) of this section. If volumetric flow monitoring device(s) installed and concentration monitoring methods used to measure the gas stream

to the Primary Process flare cannot measure the gas stream to the Turnaround flare, ExxonMobil may apply to EPA for alternative measures to determine the volumetric flow rate and total sulfur concentration of the gas stream to the Turnaround flare. Before EPA will approve such alternative measures, ExxonMobil must agree that the Turnaround flare will be used only during refinery turnarounds of limited duration and frequency—no more than 60 days once every five (5) years—which restriction shall be considered an enforceable part of this FIP. Such alternative measures may consist of reliable flow estimation parameters to estimate volumetric flow rate and manual sampling of the gas stream to the flare to determine total sulfur concentrations, or such other measures that EPA finds will provide accurate estimations of SO_2 emissions from the Turnaround flare.

(3) *Refinery fuel gas combustion requirements.*

(i) *Emission limits.* The applicable emission limits are contained in section 3(A)(1) of ExxonMobil's 2000 exhibit and section 3(B)(2) of ExxonMobil's 1998 exhibit.

(ii) *Compliance determining method.* For the limits referenced in paragraph (f)(3)(i) of this section, the compliance determining methods specified in section 4(B) of ExxonMobil's 1998 exhibit shall be followed except when the H_2S concentration in the refinery fuel gas stream exceeds 1200 ppmv as measured by the H_2S CEMS required by section 6(B)(3) of ExxonMobil's 1998 exhibit (the H_2S CEMS.) When such value is exceeded, the following compliance monitoring method shall be employed:

(A) ExxonMobil shall measure the H_2S concentration in the refinery fuel gas according to the procedures in paragraph (f)(3)(ii)(B) of this section and calculate the emissions according to the equations in paragraph (f)(3)(ii)(C) of this section.

(B) Within four (4) hours after the H_2S CEMS measures an H_2S concentration in the refinery fuel gas stream greater than 1200 ppmv, ExxonMobil shall initiate sampling of the refinery fuel gas stream at the fuel header on a once-per-hour frequency using length-of-stain detector tubes pursuant to ASTM Method D4810–06, ''Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length-of-Stain Detector Tubes'' (incorporated by reference, see paragraph (j) of this section) with the appropriate sample tube range. If the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range. ExxonMobil shall continue to use the length-of-stain detector tube method at this frequency until the H_2S CEMS measures an H_2S concentration in the refinery fuel gas stream equal to or less than 1200 ppmv continuously over a 3-hour period.

(C) When the length-of-stain detector tube method is required, SO_2 emissions from refinery fuel gas combustion shall be calculated as follows: the Hourly emissions shall be calculated using equation 1, 3-hour emissions shall be calculated using equation 2, and the Daily emissions shall be calculated using equation 3.

Equation 1: $E_H = K * C_H * Q_H$

Where:

E_H = Refinery fuel gas combustion hourly emissions in pounds per hour, rounded to the nearest tenth of a pound;

$K = 1.688 \times 10^{-7}$ in (pounds/standard cubic feet (SCF))/parts per million (ppm);

C_H = Hourly refinery fuel gas H_2S concentration in ppm determined by the length-of-stain detector tube method as required by paragraph (f)(3)(ii)(B) of this section; and

Q_H = actual fuel gas firing rate in standard cubic feet per hour (SCFH), as measured by the monitor required by section 6(B)(8) of ExxonMobil's 1998 exhibit.

Equation 2: (Refinery fuel gas combustion 3-hour emissions) = Σ (Hourly emissions within the 3-hour period as determined by equation 1).

Equation 3: (Refinery fuel gas combustion daily emissions) = Σ (3-hour emissions within the day as determined by equation 2).

(4) *Coker CO Boiler stack requirements.*

(i) *Emission limits.* When ExxonMobil's Coker unit is operating and Coker unit flue gases are burned in the Coker CO Boiler, the applicable emission limits are contained in section 3(B)(1) of ExxonMobil's 2000 exhibit.

(ii) *Compliance determining method.*

(A) Compliance with the emission limits referenced in paragraph (f)(4)(i) of this section shall be determined by measuring the SO_2 concentration and flow rate in the Coker CO Boiler stack according to the procedures in paragraphs (f)(4)(ii)(B) and (C) of this section and calculating emissions according to the equations in paragraph (f)(4)(ii)(D) of this section.

(B) Beginning on May 21, 2008, ExxonMobil shall operate and maintain a CEMS to measure sulfur dioxide concentrations in the Coker CO Boiler stack. Whenever ExxonMobil's Coker unit is operating and Coker unit flue gases are exhausted through the Coker CO Boiler stack, the CEMS shall be operational and shall achieve a temporal sampling resolution of at least one (1) concentration measurement per minute, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, and meet the CEMS Performance Specifications contained in section 6(C) of ExxonMobil's 1998 exhibit, except that ExxonMobil shall perform a Cylinder Gas Audit (CGA) or Relative Accuracy Audit (RAA) which meets the requirements of 40 CFR part 60, Appendix F, within eight (8) hours of when the Coker unit flue gases begin exhausting through the Coker CO Boiler stack. ExxonMobil shall perform an annual Relative Accuracy Test Audit (RATA) on the CEMS and notify EPA in writing of each annual RATA a minimum of 25 working days prior to actual testing.

(C) Beginning on May 21, 2008, ExxonMobil shall operate and maintain a continuous stack flow rate monitor to measure the stack gas flow rates in the Coker CO Boiler stack. Whenever ExxonMobil's Coker unit is operating and Coker unit flue gases are exhausted through the Coker CO Boiler stack, this CEMS shall be operational and shall achieve a temporal sampling resolution of at least one (1) flow rate measurement per minute, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, and meet the Stack Gas Flow Rate Monitor Performance Specifications of section 6(D) of ExxonMobil's 1998 exhibit, except that ExxonMobil shall perform an annual Relative Accuracy Test Audit (RATA) on the CEMS and notify EPA in writing of each annual RATA a minimum of 25 working days prior to actual testing.

(D) SO_2 emissions from the Coker CO Boiler stack shall be determined in accordance with the equations in sections 2(A)(1), (8), (11)(a), and (16) of ExxonMobil's 1998 exhibit.

(5) *Data reporting requirements.*

(i) ExxonMobil shall submit quarterly reports beginning with the first calendar quarter following May 21, 2008. The quarterly reports shall be submitted within 30 days of the end of each calendar quarter. The quarterly reports shall be submitted to EPA at the following address: Air Program Contact, EPA Montana Operations Office, Federal Building, 10 West 15th Street, Suite 3200, Helena, MT 59626.

The quarterly report shall be certified for accuracy in writing by a responsible ExxonMobil official. The quarterly report shall consist of both a comprehensive electronic-magnetic report and a written hard copy data summary report.

(ii) The electronic report shall be on magnetic or optical media, and such submittal shall follow the reporting format of electronic data being submitted to the MDEQ. EPA may modify the reporting format delineated in this section, and, thereafter, ExxonMobil shall follow the revised format. In addition to submitting the electronic quarterly reports to EPA, ExxonMobil shall also record, organize, and archive for at least five (5) years the same data, and upon request by EPA, ExxonMobil shall provide EPA with any data archived in accordance with this provision. The electronic report shall contain the following:

(A) Hourly average total sulfur concentrations as H_2S or SO_2 in ppm in the gas stream to the flare(s);

(B) Hourly average H_2S concentrations of the flare pilot and purge gases in ppm;

(C) Hourly average SO_2 concentrations in ppm from the Coker CO Boiler stack;

(D) Hourly average volumetric flow rates in SCFH of the flare pilot and purge gases;

(E) Hourly average volumetric flow rates in SCFH in the gas stream to the flare(s) and in the Coker CO Boiler stack;

(F) Hourly average H_2S concentrations in ppm from the refinery fuel gas system;

(G) Hourly average refinery fuel gas combustion units' actual fuel firing rate in SCFH;

(H) Hourly average temperature (in °F) and pressure (in mm or inches of Hg) of the gas stream to the flare(s);

(I) Hourly emissions in pounds per clock hour from the flare(s), Coker CO Boiler stack, and refinery fuel gas combustion system; and

(J) Daily calibration data for the CEMS described in paragraphs (f)(2)(ii), (f)(3)(ii) and (f)(4)(ii) of this section.

(iii) The quarterly written report shall contain the following information:

(A) The 3-hour emissions in pounds per 3-hour period from the flare(s), Coker CO Boiler stack, and refinery fuel gas combustion system;

(B) Periods in which only natural gas or an inert gas was used as flare pilot gas or purge gas or both;

(C) Daily emissions in pounds per calendar day from the Coker CO Boiler stack and refinery fuel gas combustion system;

(D) The results of all quarterly or other Cylinder Gas Audits (CGA), Relative Accuracy Audits (RAA), and annual Relative Accuracy Test Audits (RATA) for the CEMS described in paragraphs (f)(2)(ii) (flare total sulfur analyzer(s); pilot gas or purge gas H_2S analyzer(s)), (f)(3)(ii), and (f)(4)(ii) of this section, and the results of all annual calibrations and verifications for the volumetric flow, temperature, and pressure monitors;

(E) For all periods of flare volumetric flow rate monitoring system or total sulfur analyzer system downtime, Coker CO Boiler stack CEMS downtime, refinery fuel gas combustion system CEMS downtime, flare pilot gas or purge gas volumetric flow or H_2S analyzer system downtime, or failure to obtain or analyze a grab or integrated sample, the written report shall identify:

(*1*) Dates and times of downtime or failure;

(*2*) Reasons for downtime or failure;

(*3*) Corrective actions taken to mitigate downtime or failure; and

(*4*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(F) For all periods that the range of the flare or any pilot or purge gas volumetric flow rate monitor(s), any flare total sulfur analyzer(s), or any pilot or purge gas H_2S analyzer(s) is exceeded, the written report shall identify:

(*1*) Date and time when the range of the volumetric flow monitor(s), total sulfur analyzer(s), or H_2S analyzer(s) was exceeded, and

(*2*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(G) For all periods that the range of the refinery fuel gas CEMS is exceeded, the written report shall identify:

(*1*) Date, time, and duration when the range of the refinery fuel gas CEMS was exceeded;

(H) For all periods that the flare volumetric flow monitor or monitors are recording flow, yet any Flare Water Seal Monitoring Device indicates there is no flow, the written report shall identify:

(*1*) Date, time, and duration when the flare volumetric flow monitor(s) recorded flow, yet any Flare Water Seal Monitoring Device indicated there was no flow;

(I) For each 3-hour period and calendar day in which the flare emission limits, the Coker CO Boiler stack emission limits, or the fuel gas combustion system emission limits are exceeded, the written report shall identify:

(*1*) The date, start time, and end time of the excess emissions;

(*2*) Total hours of operation with excess emissions, the hourly emissions, the 3-hour emissions, and the daily emissions;

(*3*) All information regarding reasons for operating with excess emissions; and

(*4*) Corrective actions taken to mitigate excess emissions; and

(J) When no excess emissions have occurred or the continuous monitoring system(s) or manual system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(g) *Montana Sulphur & Chemical Company (MSCC) emission limits and compliance determining methods.*

(1) *Introduction.* The provisions for MSCC cover the following units:

(i) The flares, which consist of the 80-foot west flare, 125-foot east flare, and 100-meter flare.

(ii) The SRU 100-meter stack.

(iii) The auxiliary vent stacks and the units that can exhaust through the auxiliary vent stacks, which consist of the Railroad Boiler, the H–1 Unit, the H1–A unit, the H1–1 unit and the H1–2 unit.

(iv) The SRU 30-meter stack and the units that can exhaust through the SRU 30-meter stack. The units that can exhaust through the SRU 30-meter stack are identified in section 3(A)(2)(d) and (e) of MSCC's 1998 exhibit.

(2) *Flare requirements.*

(i) *Emission limit.* Total combined emissions of SO_2 from the 80-foot west flare, 125-foot east flare, and 100-meter flare shall not exceed 150.0 pounds per 3-hour period.

(ii) *Compliance determining method.* Compliance with the emission limit in paragraph (g)(2)(i) of this section shall be determined in accordance with paragraph (h) of this section. In the event MSCC cannot monitor all three flares from a single location, MSCC shall establish multiple monitoring locations.

(3) *SRU 100-meter stack requirements.*

(i) *Emission limits.* Emissions of SO_2 from the SRU 100-meter stack shall not exceed:

(A) 2,981.7 pounds per 3-hour period;

(B) 23,853.6 pounds per calendar day; and

(C) 9,088,000 pounds per calendar year.

(ii) *Compliance determining method.*

(A) Compliance with the emission limits contained in paragraph (g)(3)(i) of this section shall be determined by the CEMS and emission testing methods required by sections 6(B)(1) and (2) and section 5, respectively, of MSCC's 1998 exhibit.

(B) MSCC shall notify EPA in writing of each annual source test a minimum of 25 working days prior to actual testing.

(C) The CEMS referenced in paragraph (g)(3)(ii)(A) of this section

shall achieve a temporal sampling resolution of at least one (1) concentration and flow rate measurement per minute, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, and meet the ''CEM Performance Specifications'' in sections 6(C) and (D) of MSCC's 1998 exhibit, except that MSCC shall also notify EPA in writing of each annual Relative Accuracy Test Audit at least 25 working days prior to actual testing.

(4) *Auxiliary vent stacks.*

(i) *Emission limits.*

(A) Total combined emissions of SO_2 from the auxiliary vent stacks shall not exceed 12.0 pounds per 3-hour period;

(B) Total combined emissions of SO_2 from the auxiliary vent stacks shall not exceed 96.0 pounds per calendar day;

(C) Total combined emissions of SO_2 from the auxiliary vent stacks shall not exceed 35,040 pounds per calendar year; and

(D) The H_2S concentration in the fuel burned in the Railroad Boiler, the H–1 Unit, the H1–A unit, the H1–1 unit, and the H1–2 unit, while any of these units is exhausting to the auxiliary vent stacks, shall not exceed 160 ppm per 3-hour period and 100 ppm per calendar day.

(ii) *Compliance determining method.*

(A) Compliance with the emission limits in paragraph (g)(4)(i) of this section shall be determined by measuring the H_2S concentration of the fuel burned in the Railroad Boiler, the H–1 Unit, the H1–A unit, the H1–1 unit, and the H1–2 unit (when fuel other than natural gas is burned in one or more of these units) according to the procedures in paragraph (g)(4)(ii)(C) of this section.

(B) Beginning June 20, 2008, MSCC shall maintain logs of:

(*1*) The dates and time periods that emissions are exhausted through the auxiliary vent stacks,

(*2*) The heaters and boilers that are exhausting to the auxiliary vent stacks during such time periods, and

(*3*) The type of fuel burned in the heaters and boilers during such time periods.

(C) Beginning June 20, 2008, MSCC shall measure the H_2S content of the fuel burned when fuel other than natural gas is burned in a heater or boiler that is exhausting to an auxiliary vent stack. MSCC shall begin measuring the H_2S content of the fuel at the fuel header within one (1) hour from when a heater or boiler begins exhausting to an auxiliary vent stack and on a once-per-3-hour period frequency until no heater or boiler is exhausting to an auxiliary vent stack. To determine the H_2S content of the fuel burned, MSCC shall use length-of-stain detector tubes pursuant to ASTM Method D4810–06, ''Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length-of-Stain Detector Tubes'' (incorporated by reference, see paragraph (j) of this section) with the appropriate sample tube range. If the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range.

(5) *SRU 30-meter stack.*

(i) *Emission limits.*

(A) Emissions of SO_2 from the SRU 30-meter stack shall not exceed 12.0 pounds per 3-hour period;

(B) Emissions of SO_2 from the SRU 30-meter stack shall not exceed 96.0 pounds per calendar day;

(C) Emissions of SO_2 from the SRU 30-meter stack shall not exceed 35,040 pounds per calendar year; and

(D) The H_2S concentration in the fuel burned in the heaters and boilers described in paragraph (g)(1)(iv) of this section, while any of these units is exhausting to the SRU 30-meter stack, shall not exceed 160 ppm per 3-hour period and 100 ppm per calendar day.

(ii) *Compliance determining method.*

(A) Compliance with the emission limits in paragraph (g)(5)(i) of this section shall be determined by measuring the H_2S concentration of the fuel burned in the heaters and boilers described in paragraph (g)(1)(iv) of this section (when fuel other than natural gas is burned in one or more of these heaters or boilers) according to the procedures in paragraph (g)(5)(ii)(C) of this section.

(B) Beginning June 20, 2008, MSCC shall maintain logs of:

(*1*) The dates and time periods that emissions are exhausted through the SRU 30-meter stack,

(*2*) The heaters and boilers that are exhausting to the SRU 30-meter stack during such time periods, and

(*3*) The type of fuel burned in the heaters and boilers during such time periods.

(C) Beginning June 20, 2008, MSCC shall measure the H_2S content of the fuel burned when fuel other than natural gas is burned in a heater or boiler that is exhausting to the SRU 30-meter stack. MSCC shall begin measuring the H_2S content of the fuel at the fuel header within one (1) hour from when any heater or boiler begins exhausting to the SRU 30-meter stack and on a once-per-3-hour period frequency until no heater or boiler is exhausting to the SRU 30-meter stack. To determine the H_2S content of the fuel burned, MSCC shall use length-of-stain detector tubes pursuant to ASTM Method D4810–06, ''Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length-of-Stain Detector Tubes'' (incorporated by reference, see paragraph (j) of this section) with the appropriate sample tube range. If the results exceed the tube's range, another tube of a higher range must be used until results are in the tube's range.

(6) Data reporting requirements:

(i) MSCC shall submit quarterly reports beginning with the first calendar quarter following May 21, 2008. The quarterly reports shall be submitted within 30 days of the end of each calendar quarter. The quarterly reports shall be submitted to EPA at the following address: Air Program Contact, EPA Montana Operations Office, Federal Building, 10 West 15th Street, Suite 3200, Helena, MT 59626.

The quarterly report shall be certified for accuracy in writing by a responsible MSCC official. The quarterly report shall consist of both a comprehensive electronic-magnetic report and a written hard copy data summary report.

(ii) The electronic report shall be on magnetic or optical media, and such submittal shall follow the reporting format of electronic data being submitted to the MDEQ. EPA may modify the reporting format delineated in this section, and, thereafter, MSCC shall follow the revised format. In addition to submitting the electronic quarterly reports to EPA, MSCC shall also record, organize, and archive for at least five (5) years the same data, and upon request by EPA, MSCC shall provide EPA with any data archived in accordance with this provision. The electronic report shall contain the following:

(A) Hourly average total sulfur concentrations as H_2S or SO_2 in ppm, in the gas stream to the flare(s);

(B) Hourly average H_2S concentrations of the flare pilot and purge gases in ppm;

(C) Hourly average SO_2 concentrations in ppm from the SRU 100-meter stack;

(D) Hourly average volumetric flow rates in SCFH in the gas stream to the flare(s) and in the SRU 100-meter stack;

(E) Hourly average volumetric flow rates in SCFH of the flare pilot and purge gases;

(F) Hourly average temperature (in (F) and pressure (in mm or inches of Hg) in the gas stream to the flare(s);

(G) Hourly emissions in pounds per clock hour from the flare(s) and SRU 100-meter stack;

(H) Daily calibration data for all flare CEMS, all pilot gas and purge gas CEMS, and the SRU 100-meter stack CEMS;

(iii) The quarterly written report shall contain the following information:

(A) The 3-hour emissions in pounds per 3-hour period from the flare(s) and SRU 100-meter stack, and 3-hour H_2S concentrations in the fuel burned in the heaters and boilers described in paragraphs (g)(1)(iii) and (iv) of this section while any of these units is exhausting to the SRU 30-meter stack or auxiliary vent stacks and burning fuel other than natural gas;

(B) Periods in which only natural gas or an inert gas was used as flare pilot gas or purge gas or both;

(C) Daily emissions in pounds per calendar day from the SRU 100-meter stack;

(D) Annual emissions of SO_2 in pounds per calendar year from the SRU 100-meter stack;

(E) The results of all quarterly Cylinder Gas Audits (CGA), Relative Accuracy Audits (RAA) and annual Relative Accuracy Test Audits (RATA) for all total sulfur analyzer(s), all H_2S analyzer(s), and the SRU 100-meter stack CEMS, and the results of all annual calibrations and verifications for the volumetric flow, temperature, and pressure monitors;

(F) For all periods of flare volumetric flow rate monitoring system or total sulfur analyzer system downtime, SRU 100-meter CEMS downtime, flare pilot gas or purge gas volumetric flow or H_2S analyzer system downtime, failure to obtain or analyze a grab or integrated sample, or failure to obtain an H_2S concentration sample as required by paragraphs (g)(4)(ii)(C) and (g)(5)(ii)(C) of this section, the written report shall identify:

(*1*) Dates and times of downtime or failure;

(*2*) Reasons for downtime or failure;

(*3*) Corrective actions taken to mitigate downtime or failure; and

(*4*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(G) For all periods that the range of the flare or any pilot or purge gas volumetric flow rate monitor(s), any flare total sulfur analyzer(s), or any pilot or purge gas H_2S analyzer(s), is exceeded, the written report shall identify:

(*1*) Date and time when the range of the volumetric flow monitor(s), total sulfur analyzer(s), or H_2S analyzer(s) was exceeded; and

(*2*) The other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, used to determine flare emissions;

(H) For all periods that the flare volumetric flow monitor or monitors are recording flow, yet any Flare Water Seal Monitoring Device indicates there is no flow, the written report shall identify:

(*1*) Date, time, and duration when the flare volumetric flow monitor(s) recorded flow, yet any Flare Water Seal Monitoring Device indicated there was no flow;

(I) For each 3-hour period and calendar day in which the flare emission limit, the SRU 100-meter stack emission limits, the SRU 30-meter stack emission limits, or auxiliary vent stack emission limits are exceeded, the written report shall identify:

(1) The date, start time, and end time of the excess emissions;

(*2*) Total hours of operation with excess emissions, the hourly emissions, the 3-hour emissions, and the daily emissions;

(*3*) All information regarding reasons for operating with excess emissions; and

(*4*) Corrective actions taken to mitigate excess emissions;

(J) For instances in which emissions are exhausted through the auxiliary vent stacks or 30-meter stack, the quarterly written report shall identify:

(*1*) The dates and time periods that emissions were exhausted through the auxiliary vent stacks or the 30-meter stack;

(*2*) The heaters and boilers that were exhausting to the auxiliary vent stacks or 30-meter stack during such time periods; and

(*3*) The type of fuel burned in the heaters and boilers during such time periods; and

(K) When no excess emissions have occurred or the continuous monitoring system(s) or manual system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(h) *Flare compliance determining method.*

(1) Compliance with the emission limits in paragraphs (d)(2)(i), (e)(2)(i), (f)(2)(i) and (g)(2)(i) of this section shall be determined by measuring the total sulfur concentration and volumetric flow rate of the gas stream to the flare(s) (corrected to one (1) atmosphere pressure and 68° F) and using the methods contained in the flare monitoring plan required by paragraph (h)(5) of this section. The volumetric flow rate of the gas stream to the flare(s) shall be determined in accordance with the requirements in paragraph (h)(2) of this section and the total sulfur concentration of the gas stream to the flare(s) shall be determined in accordance with paragraph (h)(3) of this section.

(2) *Flare flow monitoring:*

(i) Within 365 days after receiving EPA approval of the flare monitoring plan required by paragraph (h)(5) of this section, each facility named in paragraph (a) of this section shall install and calibrate, and, thereafter, calibrate, maintain and operate, a continuous flow monitoring system capable of measuring the volumetric flow of the gas stream to the flare(s) in accordance with the specifications contained in paragraphs (h)(2)(iii) through (vi) of this section. The flow monitoring system shall require more than one flow monitoring device or flow measurements at more than one location if one monitor cannot measure the total volumetric flow to each flare.

(ii) Volumetric flow monitors meeting the proposed volumetric flow monitoring specifications below should be able to measure the majority of volumetric flow in the gas streams to the flare. However, in rare events (e.g., upset conditions) the flow to the flare may exceed the range of the monitor. In such cases, or when the volumetric flow monitor or monitors are not working, other methods approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section shall be used to determine the volumetric flow rate to the flare, which shall then be used to calculate SO_2 emissions. In quarterly reports, sources shall indicate when these other methods are used.

(iii) The flare gas stream volumetric flow rate shall be measured on an actual wet basis, converted to Standard Conditions, and reported in SCFH. The minimum detectable velocity of the flow monitoring device(s) shall be 0.1 feet per second (fps). The flow monitoring device(s) shall continuously measure the range of flow rates corresponding to velocities from 0.5 to 275 fps and have a manufacturer's specified accuracy of ±5% of the measured flow over the range of 1.0 to 275 fps and ±20% of the measured flow over the range of 0.1 to 1.0 fps. The volumetric flow monitor(s) shall feature automated daily calibrations at low and high ranges. The volumetric flow monitor(s) shall be calibrated annually according to manufacturer's specifications.

(iv) For correcting flow rate to standard conditions (defined as 68°F and 760 mm, or 29.92 inches, of Hg), temperature and pressure shall be monitored continuously. Temperature and pressure shall be monitored in the same location as volumetric flow, and the temperature and pressure monitors shall be calibrated prior to installation according to manufacturer's specifications and, thereafter, annually to meet accuracy specifications as follows: The temperature monitor shall

be calibrated to within ± 2.0% at absolute temperature and the pressure monitor shall be calibrated to within ± 5.0 mmHg;

(v) The flow monitoring device(s) shall be calibrated prior to installation to demonstrate accuracy of the measured flow to within 5.0% at flow rates equivalent to 30%, 60%, and 90% of monitor full scale.

(vi) Each volumetric flow device shall achieve a temporal sampling resolution of at least one (1) flow rate measurement per minute, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, and be installed in a manner and at a location that will allow for accurate measurements of the total volume of the gas stream going to each flare. Each temperature and pressure monitoring device shall achieve a temporal sampling resolution of at least one (1) measurement per minute, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, and be installed in a manner that will allow for accurate measurements.

(vii) In addition to the continuous flow monitors, facilities may use flare water seal monitoring devices to determine whether there is flow going to the flare. If used, owners or operators shall install, calibrate, operate, and maintain these devices according to manufacturer's specifications. The devices shall include a continuous monitoring system that:

(A) Monitors the status of the water seal to indicate when flow is going to the flare;

(B) Automatically records the time and duration when flow is going to the flare; and

(C) Verifies that the physical seal has been restored after flow has been sent to the flare.

If the water seal monitoring devices indicate that there is no flow going to the flare, yet the continuous flow monitor is indicating flow, the presumption will be that no flow is going to the flare.

(viii) Each facility named in paragraph (a) of this section, that does not certify that only natural gas or an inert gas is used for both the pilot gas and purge gas, shall determine the volumetric flow of each pilot gas and purge gas stream for which natural gas or inert gas is not used by one of the following methods:

(A) Measure the volumetric flow of the gas using continuous flow monitoring devices on an actual wet basis, converted to Standard Conditions, and reported in SCFH. Each flow monitoring device shall achieve a temporal sampling resolution of at least one (1) flow rate measurement per minute, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, and be installed in a manner and at a location that will allow for accurate measurements of the total volume of the gas. Gas flow rate monitor accuracy determinations shall be required at least once every 48 months or more frequently at routine refinery turn-around. In cases when the flow monitoring device or devices are not working or the range of the monitoring device(s) is exceeded, other methods approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section shall be used to determine volumetric flow of the gas which shall then be used to calculate SO_2 emissions. In quarterly reports, sources shall indicate when other methods are used; or

(B) Use parameters and methods approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section to calculate the volumetric flows of the gas, in SCFH.

(3) *Flare concentration monitoring:*

(i) Within 365 days after receiving EPA approval of the flare monitoring plan required by paragraph (h)(5) of this section, each facility named in paragraph (a) of this section shall determine the total sulfur concentration of the gas stream to the flare(s) using either continuous total sulfur analyzers or grab or integrated sampling with lab analysis, as described in the following paragraphs:

(A) Continuous total sulfur concentration monitoring. If a facility chooses to use continuous total sulfur concentration monitoring, the following requirements apply:

(*1*) The facility shall install and calibrate, and, thereafter, calibrate, maintain and operate, a continuous total sulfur concentration monitoring system capable of measuring the total sulfur concentration of the gas stream to each flare. Continuous monitoring shall occur at a location or locations that are representative of the gas combusted in the flare and be capable of measuring the normally expected range of total sulfur in the gas stream to the flare. The concentration monitoring system shall require more than one concentration monitoring device or concentration measurements at more than one location if one monitor cannot measure the total sulfur concentration to each flare. Total sulfur concentration shall be reported as H_2S or SO_2 in ppm. In cases when the total sulfur analyzer or analyzers are not working or the concentration of the total sulfur exceeds the range of the analyzer(s), other methods, approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section, shall be used to determine total sulfur concentrations, which shall then be used to calculate SO_2 emissions. In quarterly reports, sources shall indicate when these other methods are used.

(*2*) The total sulfur analyzer(s) shall achieve a temporal sampling resolution of at least one (1) concentration measurement per 15 minutes, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, be installed, certified (on a concentration basis), and operated in accordance with 40 CFR part 60, Appendix B, Performance Specification 5, and be subject to and meet the quality assurance and quality control requirements (on a concentration basis) of 40 CFR part 60, Appendix F.

(*3*) Each affected facility named in paragraph (a) of this section shall notify the Air Program Contact at EPA's Montana Operations Office, Federal Building, 10 West 15th Street, Suite 3200, Helena, MT 59626, in writing of each Relative Accuracy Test Audit a minimum of 25 working days prior to the actual testing.

(B) Grab or integrated total sulfur concentration monitoring: If a facility chooses grab or integrated sampling instead of continuous total sulfur concentration monitoring, the facility shall comply with the methods specified in either paragraph (h)(3)(i)(B)(*1*) (''Grab Sampling'') or (h)(3)(B)(i)(B)(*2*) (''Integrated Sampling''), and the requirements of paragraphs (h)(3)(i)(B)(*3*) (''Sample Analysis''), (h)(3)(i)(B)(*4*) (''Exemptions''), and (h)(3)(i)(B)(*5*) (''Missing or Unanalyzed Sample'') of this section, as follows:

(*1*) Grab Sampling. Each facility that chooses to use grab sampling shall meet the following requirements: if the flow rate of the gas stream to the flare in any consecutive 15-minute period continuously exceeds 0.5 feet per second (fps) and the water seal monitoring device, if any, indicates that flow is going to the flare, a grab sample shall be collected within 15 minutes. The grab sample shall be collected at a location that is representative of the gas combusted in the flare. Thereafter, the sampling frequency shall be one (1) grab sample every three (3) hours, which shall continue until the velocity of the gas stream going to the flare in any consecutive 15-minute period is continuously 0.5 fps or less. Samples shall be analyzed according to paragraph (h)(3)(i)(B)(*3*) of this section. The requirements of this paragraph (h)(3)(i)(B)(*1*) shall apply to each flare at

a facility for which the sampling threshold is exceeded.

(*2*) Integrated Sampling. Each facility that chooses to use integrated sampling shall meet the following requirements: if the flow rate of the gas stream to the flare in any consecutive 15-minute period continuously exceeds 0.5 feet per second (fps) and the water seal monitoring device, if any, indicates that flow is going to the flare, a sample shall be collected within 15 minutes. The sample shall be collected at a location that is representative of the gas combusted in the flare. The sampling frequency, thereafter, shall be a minimum of one (1) aliquot for each 15-minute period until the sample container is full, or until the end of a 3-hour period is reached, whichever comes sooner. Within 30 minutes thereafter, a new sample container shall be placed in service, and sampling on this frequency, and in this manner, shall continue until the velocity of the gas stream going to the flare in any consecutive 15-minute period is continuously 0.5 fps or less. Samples shall be analyzed according to paragraph (h)(3)(i)(B)(*3*) of this section. The requirements of this paragraph (h)(3)(i)(B)(*2*) shall apply to each flare at a facility for which the sampling threshold is exceeded.

(*3*) Samples shall be analyzed using ASTM Method D4468–85 (Reapproved 2000) ''Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry,'' (incorporated by reference, see paragraph (j) of this section) ASTM Method D5504–01 (Reapproved 2006) ''Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence,'' (incorporated by reference, see paragraph (j) of this section) or 40 CFR part 60, Appendix A–5, Method 15A ''Determination of Total Reduced Sulfur Emissions From the Sulfur Recovery Plants in Petroleum Refineries.'' Total sulfur concentration shall be reported as H_2S or SO_2 in ppm.

(*4*) Exemptions. For facilities using a sampling method specified in either paragraph (h)(3)(i)(B)(*1*) (''Grab Sampling'') or (h)(3)(i)(B)(*2*) (''Integrated Sampling'') of this section, obtaining a sample is not required if flaring is a result of a catastrophic or other unusual event, including a major fire or an explosion at the facility, such that collecting a sample at the EPA-approved location during the relevant period is infeasible or constitutes a safety hazard, provided that the owner or operator shall collect a sample at an alternative location if feasible, safe, and representative of the flaring event. The owner or operator shall demonstrate to EPA that it was infeasible or unsafe to collect a sample or to collect a sample at the sampling location approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section. The owner or operator shall also demonstrate to EPA that any sample collected at an alternative location is representative of the flaring incident. If a facility experiences ongoing difficulties collecting grab or integrated samples in accordance with its flare monitoring plan approved by EPA pursuant to paragraph (h)(5) of this section, EPA may require the facility to revise its flare monitoring plan and use continuous total sulfur concentration monitoring as described in paragraph (h)(3)(i)(A) of this section or other reliable method to determine total sulfur concentrations of the gas stream to the flare.

(*5*) Missing or Unanalyzed Samples. For facilities using a sampling method specified in either paragraph (h)(3)(i)(B)(*1*) (''Grab Sampling'') or (h)(3)(i)(B)(*2*) (''Integrated Sampling'') of this section, if a required sample is not obtained or analyzed for any reason, other methods approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section shall be used to determine total sulfur concentrations, which shall then be used to calculate SO_2 emissions. In quarterly reports, sources shall indicate when these other methods are used.

(*6*) Reporting. For facilities using a sampling method specified in either paragraph (h)(3)(i)(B)(*1*) (''Grab Sampling'') or (h)(3)(i)(B)(*2*) (''Integrated Sampling'') of this section, since normally only one (1) sample per flare will be analyzed for a 3-hour period, the total sulfur concentration of a sample obtained during a given 3-hour period shall be substituted for each hour of such 3-hour period. If integrated sampling for a flare produces more than one (1) sample container during a 3-hour period, and the gas in each container is analyzed separately, the concentrations for the containers shall be averaged. For that flare, the resulting average shall be substituted for each hour of the 3-hour period during which the sampling occurred. The substituted hourly total sulfur concentrations determined per this paragraph shall be used to determine hourly emissions from the flare.

(ii) Each facility named in paragraph (a) of this section that does not certify that only natural gas or an inert gas is used for both the pilot gas and purge gas shall determine the H_2S concentration of each pilot gas and purge gas stream for which natural gas or inert gas is not used by one of the following methods:

(A) Measure the H_2S concentration of the gas by continuous H_2S analyzer. The H_2S concentration analyzer(s) shall achieve a temporal sampling resolution of at least one (1) concentration measurement per three (3) minutes, meet the requirements expressed in the definition of ''hourly average'' in paragraph (c)(14) of this section, be installed, certified (on a concentration basis), and operated in accordance with 40 CFR part 60, Appendix B, Performance Specification 2, and be subject to and meet the quality assurance and quality control requirements (on a concentration basis) of 40 CFR part 60, Appendix F. In cases where the H_2S analyzer or analyzers are not working or the H_2S concentration exceeds the range of the analyzer(s), other methods approved by EPA in the flare monitoring plan required by paragraph (h)(5) of this section shall be used to determine the H_2S concentration of the gas, which shall then be used to calculate SO_2 emissions. In quarterly reports, sources shall indicate when other methods are used; or

(B) Use methods approved by EPA as part of the facility's flare monitoring plan required by paragraph (h)(5) of this section to estimate the H_2S concentration of the gas.

(4) *Calculation of SO_2 emissions from flares.* Methods for calculating hourly and 3-hour SO_2 emissions from flares shall be submitted to EPA as part of the flare monitoring plan required by paragraph (h)(5) of this section. Following approval by EPA, such methods shall be followed for calculating hourly and 3-hour SO_2 emissions from a facility's flare(s).

(5) By October 20, 2008, each facility named in paragraph (a) of this section shall submit a flare monitoring plan. Each flare monitoring plan shall include, at a minimum, the following:

(i) A facility plot plan showing the location of each flare in relation to the general plant layout;

(ii) Drawing(s) with dimensions, preferably to scale, and an as-built process flow diagram of the flare(s) identifying major components, such as flare header, flare stack, flare tip(s) or burner(s), purge gas system, pilot gas system, water seal, knockout drum, and molecular seal;

(iii) A representative flow diagram showing the interconnections of the flare system(s) with vapor recovery system(s), process units, and other equipment as applicable;

(iv) A complete description of the gas flaring process for an integrated gas

flaring system that describes the method of operation of the flares;

(v) A complete description of the vapor recovery system(s) which have interconnection to a flare, such as compressor description(s); design capacities of each compressor and the vapor recovery system; and the method currently used to determine and record the amount of vapors recovered;

(vi) A complete description of the proposed method to monitor, determine, and record the total volume and total sulfur concentration of gases combusted in the flare, including drawing(s) with dimensions, preferably to scale, showing the following information for the proposed flare gas stream monitoring systems:

(A) The locations to be used for all monitoring and sampling, including, but not limited to: Flare flow monitors, total sulfur analyzers, concentration integrated sampling, concentration grab sampling, water seal monitoring devices, pilot and purge gas flow monitors, and pilot and purge gas concentration monitors;

(vii) A description of the method(s) used to determine, and reasoning behind, all monitoring and sampling locations;

(viii) The following information regarding pilot gas and purge gas for each flare:

(A) Type(s) of gas used;

(B) A complete description of the monitor(s) to be used, or the other parameters that will be used and monitored, to determine volumetric flows of the pilot gas and purge gas streams for which natural gas or inert gas is not used; and

(C) A complete description of the analyzer(s) to be used to determine, or other methods that will be used to estimate, the H_2S concentrations in the pilot gas and purge gas streams for which natural gas or inert gas is not used;

(ix) A detailed description of manufacturer's specifications, including, but not limited to, make, model, type, range, precision, accuracy, calibration, maintenance, quality assurance procedure, and any other relevant specifications and information referenced in paragraphs (h)(2) and (3) of this section for all existing and proposed flow monitoring devices and total sulfur analyzers;

(x) The following information if grab or integrated sampling is used:

(A) A complete description of proposed analytical and sampling methods if grab or integrated sampling methods will be used for determining the total sulfur concentration of the gas stream going to the flare;

(B) A detailed description of manufacturer's specifications, including, but not limited to, make, model, type, maintenance, and quality assurance procedures for the integrated sampling device, if used; and

(C) A complete description of the proposed method to alert personnel designated to collect samples that the trigger for collecting a sample has occurred;

(xi) A complete description of the methods to be used to estimate flare emissions when any flare, pilot gas, or purge gas volumetric flow monitoring devices, total sulfur analyzers, or grab or integrated sampling methods, or pilot gas or purge gas H_2S analyzers are not working or available, or the operating range of the monitors or analyzers is exceeded;

(xii) A complete description of the proposed data recording, collection, and management system and any other relevant specifications and information referenced in paragraphs (h)(2) and (3) of this section for each flare monitoring system;

(xiii) The following information for each flare using a water seal monitoring device:

(A) A detailed description of manufacturer's specifications, including, but not limited to, make, model, type, maintenance, and quality assurance procedures;

(B) A complete description of the proposed methods to determine that the water seal is no longer intact and flow is going to the flare, and the data used to establish, and reasoning behind, these methods;

(xiv) A schedule for the installation and operation of each flare monitoring system consistent with the deadline in paragraphs (h)(2) and (h)(3) of this section; and

(xv) A complete description of the methods to be used for calculating hourly and 3-hour SO_2 emissions from flares.

(6) Thirty (30) days prior to installing any continuous monitor or integrated sampler pursuant to paragraphs (h)(2) and (3) of this section, each facility named in paragraph (a) of this section shall submit for EPA review a quality assurance/quality control (QA/QC) plan for each monitor or sampler being installed.

(i) *Affirmative defense provisions for exceedances of flare emission limits during malfunctions, startups, and shutdowns.*

(1) In response to an action to enforce the emission limits in paragraphs (d)(2)(i), (e)(2)(i), (f)(2)(i), and (g)(2)(i) of this section, owners and/or operators of the facilities named in paragraph (a) of this section may assert an affirmative defense to a claim for civil penalties for exceedances of such limits during periods of malfunction, startup, or shutdown. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce such a limit, the owner or operator of the facility must meet the notification requirements of paragraph (i)(2) of this section in a timely manner and prove by a preponderance of evidence that:

(i) For claims of malfunction:

(A) The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the control of the owner or operator;

(B) The excess emissions:

(*1*) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(*2*) Could not have been avoided by better operation and maintenance practices;

(C) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable;

(D) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

(ii) For claims of startup or shutdown:

(A) All or a portion of the facility was in startup or shutdown mode, resulting in the need to route gases to the flare;

(B) The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design or better operation and maintenance practices; and

(C) The frequency and duration of operation in startup or shutdown mode were minimized to the maximum extent practicable;

(iii) For claims of malfunction, startup, or shutdown:

(A) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality;

(C) All emissions monitoring systems were kept in operation if at all possible;

(D) The owner or operator's actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

(E) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(F) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and

(G) During the period of excess emissions, there were no exceedances of the SO_2 NAAQS that could be attributed to the emitting source.

(2) Notification. The owner or operator of the facility experiencing an exceedance of its flare emission limit(s) during startup, shutdown, or malfunction shall notify EPA verbally as soon as possible, but no later than noon of EPA's next working day, and shall submit written notification to EPA within 30 days of the initial occurrence of the exceedance. The written notification shall explain whether and how the elements set forth in paragraph (i)(1) of this section were met, and include all supporting documentation.

(3) Injunctive relief. The Affirmative Defense Provisions contained in paragraph (i)(1) of this section shall not be available to claims for injunctive relief.

(j) *Incorporation by reference.* (1) The materials listed in this paragraph are incorporated by reference in the corresponding paragraphs noted. These incorporations by reference are approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the **Federal Register**. The materials are available for purchase at the corresponding address noted below, and all are available for inspection at the National Archives and Records Administration (NARA) and at the Air Program, EPA, Region 8, 1595 Wynkoop Street, Denver, CO. For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(2) The following materials are available for purchase from the following address: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959, *www.astm.org*, or by calling (610) 832–9585.

(i) ASTM Method D4468–85 (Reapproved 2000), Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry, IBR approved for paragraph (h)(3)(i)(B)(*3*) of this section.

(ii) ASTM Method D4810–06, Standard Test Method for Hydrogen Sulfide in Natural Gas Using Length-of-Stain Detector Tubes, IBR approved for paragraphs (f)(3)(ii)(B), (g)(4)(ii)(C), and (g)(5)(ii)(C) of this section.

(ii) ASTM Method D5504–01 (Reapproved 2006), Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography IBR approved for paragraph (h)(3)(i)(B)(*3*) of this section.

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