

FOR PUBLICATION
UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

MONTANA SULPHUR & CHEMICAL COMPANY,	v.	<i>Petitioner,</i>
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,		<i>Respondent.</i>

No. 02-71657

MONTANA SULPHUR & CHEMICAL COMPANY,	v.	<i>Petitioner,</i>
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,		<i>Respondent.</i>

No. 08-72642
EPA No.
EPA-R08-OAR-
2006-0098
OPINION

On Petition for Review of an Order of the
Environmental Protection Agency

Argued and Submitted
August 31, 2011—Seattle, Washington

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426 MONTANA SULPHUR & CHEMICAL Co. v. EPA

Before: Michael Daly Hawkins and M. Margaret McKeown,
Circuit Judges, and John W. Sedwick, District Judge.*

Opinion by Judge Hawkins

*The Honorable John W. Sedwick, United States District Judge for the District of Alaska, sitting by designation.

432 MONTANA SULPHUR & CHEMICAL Co. v. EPA

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OPINION

HAWKINS, Senior Circuit Judge:

In these appeals, consolidated for decision,¹ we address the propriety of various actions taken by the United States Environmental Protection Agency (“EPA”) under the Clean Air Act with respect to Montana air quality from 1993 to 2008. In No. 02-71657, Montana Sulphur & Chemical Company (“Montana Sulphur”) seeks review of the EPA’s final rule which partially disapproved a proposed revision to Montana’s State Implementation Plan (“SIP”) governing sulfur dioxide (“SO₂”) emissions. 67 Fed. Reg. 22,168 (May 2, 2002). Montana Sulphur also seeks review of a prior EPA action in 1993 known as a “SIP Call,” which preceded the formal SIP revision and started the review process. 58 Fed. Reg. 41,430 (Aug. 4, 1993). The final agency action incorporated documents supporting its SIP Call—in particular EPA reliance on various modeling calculations—into the administrative record for partial disapproval of the SIP.

In No. 08-72642, Montana Sulphur seeks review of the EPA’s April 2008 final rule promulgating a Federal Implementation Plan (“FIP”) for the State of Montana’s SO₂ emissions. 73 Fed. Reg. 21,418 (April 21, 2008). The FIP is designed to fill perceived gaps the EPA identified in the SIP. This later appeal focuses on the EPA’s authority to promulgate the FIP and the reasonableness of certain specific requirements set forth therein. Because we conclude that the agency did not act arbitrarily or capriciously with respect to either the SIP or FIP, we deny both petitions for review.

¹We initially denied the EPA’s motion to consolidate case No. 08-72642 with 02-71657, but ordered the cases be calendared together after briefing. Montana Sulphur now acknowledges that the cases involve “many of the same issues” and that relief on the 02-71657 petition “might wholly or partially moot” the FIP challenge. We have therefore decided to address both appeals in a single opinion.

STATUTORY BACKGROUND

The Clean Air Act directs states to develop implementation plans—SIPs—that “assure” attainment and maintenance of national ambient air quality standards (“NAAQS”) through enforceable emission limitations. 42 U.S.C. §§ 7407(a), 7410(a)(2)(A). The EPA has developed a list of pollutants that cause or contribute to air pollution that “may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7408(a)(1)(A). For each criteria pollutant, the EPA sets NAAQS sufficient to protect public health with an adequate margin of safety and to protect the public welfare, 42 U.S.C. § 7409(b), pursuant to which it has promulgated NAAQS for SO₂, 40 C.F.R. §§ 50.4 & 50.5.

A SIP must “provide for the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any [NAAQS-regulated] air pollutant.” 42 U.S.C. § 7410(a)(2)(K)(i). As reflected in relevant regulations, emissions limitations may be demonstrated through modeling. 40 C.F.R. § 51.112(a)(1) (“adequacy of a control strategy shall be demonstrated by means of applicable air quality models, data bases, and other requirements specified in appendix W . . . (Guideline on Air Quality Models)”). There is also a Federal Reference Method for measuring ambient levels of SO₂ pollutants. 40 C.F.R. § 58.1. The EPA uses this data and engages in formal notice-and-comment rulemaking to designate “attainment areas,” “nonattainment areas,” and areas that are not classifiable. 42 U.S.C. § 7407(d).

The Clean Air Act gives the EPA significant national oversight power over air quality standards, to be exercised pursuant to statutory specifications, and provides the EPA with regulatory discretion in key respects relevant to SIP calls and determinations about the attainment of NAAQS. Yet, the Act also anticipates states’ shared responsibility for air quality control. 42 U.S.C. §§ 7407(a), 7410 (giving states duty of

developing implementation plans). The Clean Air Act “left with the states, *so long as the [NAAQS] were met*, the power to determine which sources would be burdened by regulation and to what extent.” *Union Elec. Co. v. EPA*, 427 U.S. 246, 269 (1976) (emphasis added); *see also Train v. Natural Res. Def. Council, Inc.*, 421 U.S. 60, 98 (1975). A state must develop implementation plans that will satisfy national standards; if it does so, it may “adopt whatever mix of emissions limitations it deems best suited to its particular situation.” *Train*, 421 U.S. at 79. But when the state plan is inadequate to attain and maintain NAAQS, then the EPA is empowered to step in and fill any deficiencies with a FIP. 42 U.S.C. § 7410(c).

PROCEDURAL BACKGROUND

The dispute between Montana Sulphur and the EPA is long-standing, spanning over seventeen years and centering on regulations governing emissions from industrial facilities located near Billings, Montana. Montana Sulphur operates a sulfur recovery plant northeast of Billings. The plant is located next to a petroleum refinery owned by ExxonMobil. Pipes from the refinery bring a continuous stream of high sulfur gas—a by-product of the refining process—to Montana Sulphur. Montana Sulphur recovers 95-98% of the sulfur as a marketable product. The remainder is emitted in the form of SO₂. SO₂ is a “highly reactive colorless” gas primarily derived from fossil fuel combustion, “best known for causing ‘acid rain’ at elevated concentrations in the ambient air.” *American Lung Ass’n v. EPA*, 134 F.3d 388, 389 (D.C. Cir. 1998).

In 1978, the EPA made a formal determination that the Billings area met the primary standards for SO₂. 43 Fed. Reg. 40,412 (Sept. 11, 1978). Neighboring Laurel was designated “nonattainment” in 1978, due to measured and modeled violations of the primary SO₂ standards. 43 Fed. Reg. 8,962 (Mar. 3, 1978). Dispersion modeling conducted by the EPA during

436 MONTANA SULPHUR & CHEMICAL Co. v. EPA

the 1970s, however, indicated that potential violations of the SO₂ standards were also occurring in the Billings area due to SO₂ emissions from a variety of sources, including Montana Sulphur.

In 1980, the EPA approved Montana's SIP for attaining and maintaining SO₂ NAAQS in the Billings/Laurel area. 45 Fed. Reg. 2,034 (Jan. 10, 1980). Actual monitoring subsequent to that approval showed some individual "exceedances" of the 24-hour SO₂ standard and one 3-hour "violation" in 1985. Based on monitored emissions, SO₂ levels remained relatively constant throughout the 1980s, decreasing slightly in 1983-86, then rising again in 1989.

In 1990, the City of Billings ("Billings" or the "City") hired a contractor to perform dispersion modeling for the Billings area. The Montana Department of Health and Environmental Sciences ("MDHES") reviewed the contractor's report, which indicated "potential violations of federal SO₂ standards at both actual and allowable emissions levels" and predicted "high concentrations in areas where ambient monitoring had not been conducted." One year later, Yellowstone Energy Limited Partnership performed dispersion modeling for its permit application and similarly identified potential violations of national SO₂ standards in the Billings area.

Citing these studies, the EPA advised MDHES in 1992 that its SIP might be inadequate and in need of revision. MDHES in turn notified the City that the emissions from industrial process units were not adequately regulated by the existing SIP. It also noted that "current monitoring sites are not at the highest predicted locations, nor could we locate enough monitors to provide the spatial coverage represented in the model." A revised SIP, it noted, would ease permitting of new industries in the Billings/Laurel area.

The EPA then issued a formal SIP Call in 1993, finding the existing SIP "substantially inadequate" to attain and maintain

NAAQS and asking MDHES to submit revisions within eighteen months; the EPA noted that the SIP Call was “a preliminary step in an ongoing process” and “not subject to judicial review.” Notice of the SIP Call was published August 4, 1993. 58 Fed. Reg. at 41,430.

MDHES thereafter developed a protocol for the SIP revisions that incorporated EPA-approved models. MDHES submitted various revisions of the SIP to the EPA in 1996, 1997, 1998, and 2000. 67 Fed. Reg. at 22,171, 22,175.

In 1999, the EPA proposed action on the SIP revisions, 64 Fed. Reg. at 40, 791, and took final actions on the SIP on May 2, 2002 (67 Fed. Reg. 22,168) and May 22, 2003 (68 Fed. Reg. 27, 908), approving most of the SIP, but disapproving a number of specific items affecting Montana Sulphur, including (1) the attainment demonstration due to issues with emission limits, inappropriate stack height credit, and lack of submitted emission limits on flares; (2) the emission limits for Montana Sulphur’s Sulfur Recovery Unit 100-meter stack and the stack height credit supporting those limits; and (3) the emission limits for Montana Sulphur’s 30-meter and auxiliary vent stacks.

Montana Sulphur petitioned for review of the EPA’s May 2, 2002 SIP action. That case, No. 02-71657, was stayed pending the EPA’s promulgation of a FIP to remedy the SIP. In 2006, the EPA published its proposed FIP. 71 Fed. Reg. 39,259 (July 12, 2006). Montana Sulphur and others commented on that proposal. In 2008, the EPA promulgated its final FIP. 73 Fed. Reg. at 21,418. In case No. 08-72642, Montana Sulphur challenges, among other things, the timeliness of the FIP, the limits on flares, and the feasibility of flare monitoring technology required by the FIP. Neither the State of Montana nor any party other than Montana Sulphur has challenged the SIP Call or the EPA’s SIP or FIP actions.

STANDARDS OF REVIEW

When reviewing the EPA's decision regarding a SIP or its promulgation of a FIP:

[T]he court may reverse any such action found to be —(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; (B) contrary to constitutional right, power, privilege, or immunity; (C) in excess of statutory jurisdiction, authority, or limitations or short of statutory right

42 U.S.C. § 7607(d)(9)(A)-(C). We afford *Chevron*² deference to issues of statutory construction; if the statute is ambiguous, we ask whether the agency's answer is based on a permissible construction of the statute. *MacClarence v. EPA*, 596 F.3d 1123, 1130 (9th Cir. 2010).

We also give deference to an agency's interpretation of its own regulations, *Wickland Oil Terminals v. Asarco*, 792 F.2d 887, 891-92 (9th Cir. 1986), and to the evaluation of complex scientific data within its area of expertise, *Env'tl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832, 869 (9th Cir. 2003). However, we do not simply rubber stamp an agency's decision, but “must carefully review the record to ensure that agency decisions are founded on a reasoned evaluation of the relevant factors.” *Vigil v. Leavitt*, 381 F.3d 826, 833 (9th Cir. 2004) (citation omitted).

²*Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842-43 (1984). Agency actions which have gone through notice and comment are typically reviewed for *Chevron* deference, see *United States v. Mead Corp.*, 533 U.S. 218, 230 (2001), but those which have not are still afforded *Skidmore* deference, which focuses on whether the agency has taken a position that has the “power to persuade,” see *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944).

DISCUSSION**I. The SIP Call****A. Justiciability**

[1] One of Montana Sulphur's primary arguments concerns the EPA's authority to make the SIP Call in the first place, because, in its view, the existing SIP was not substantially inadequate because there were no monitored violations of NAAQS in the area, only predicted violations based on computer modeling. This issue, however, raises a number of threshold justiciability concerns. The SIP Call is not a final agency action and did not impose any specific obligations on Montana Sulphur. The SIP Call was only an "act of limited consequence preliminary to other events anticipated by the [Clean Air] Act." *Illinois v. EPA*, 621 F.2d 259, 261 (7th Cir. 1980). As the Sixth Circuit has elaborated:

[T]he issuance of notice of deficiency and the request for a revised SIP is not final agency action subject to judicial review. It in no way alters the obligations of the parties in either a practical or legal sense. It is impossible to anticipate which of the many available alternative strategies the State and the EPA will pursue. . . . Until the State responds to the EPA's request for revision, and the EPA's subsequent actions become real rather than merely speculative, no legally cognizable harm has been visited.

Greater Cincinnati Chamber of Commerce v. EPA, 879 F.2d 1379, 1383 (6th Cir. 1989).

[2] Thus, the EPA is correct to the extent it argues that *at the time of the SIP Call* there was no final agency action, see *Bennett v. Spear*, 520 U.S. 154, 177-78 (1997), the issue was not yet ripe, see *Abbott Labs. v. Gardner*, 387 U.S. 136, 148-49 (1967), and Montana Sulphur had not suffered an "actual

or imminent” as opposed to a “conjectural or hypothetical” injury that would suffice for standing, *see Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 180 (2000); *see also Bova v. City of Medford*, 564 F.3d 1093, 1095-96 (9th Cir. 2009) (noting how ripeness and the injury prong of standing are interrelated).

[3] This does not, however, mean that the alleged problems with the SIP Call are forever beyond challenge. Montana Sulphur filed its petition for review after the EPA both made the SIP Call *and* issued its partial approval/partial disapproval of the SIP. There is no dispute that the SIP disapproval was a final agency action and that Montana Sulphur has standing to challenge this action.

[4] The EPA’s 2002 disapproval, in turn, is necessarily predicated on the validity of the initial SIP Call and the modeling assumptions made therein, which Montana Sulphur also seeks to challenge. *Compare* 58 Fed. Reg. at 41,430 *with* 67 Fed. Reg. at 22,173, 22,183-22,189. Because Montana Sulphur’s claim that the EPA exceeded its statutory authority by issuing the SIP Call in the first place would necessarily invalidate the 2002 SIP disapproval as well, its challenge to the SIP Call may be brought at this time. *See Virginia v. EPA*, 108 F.3d 1397, 1414 (D.C. Cir. 1997), *as modified*, 116 F.3d 499 (D.C. Cir. 1997) (striking down a SIP Call which was based on a final agency rule that exceeded the EPA’s authority under the Clean Air Act); *see also Greater Cincinnati*, 879 F.2d at 1382 (holding claim regarding SIP Call was premature “[u]ntil the State responds to the EPA’s request for revision, and the EPA’s subsequent actions become real rather than merely speculative”) (emphasis added).

B. Merits

[5] Although Montana Sulphur has standing to challenge the underlying SIP Call as part of its challenge to the final agency disapproval in 2002, we conclude that the EPA did not

exceed its authority under the Clean Air Act by issuing the SIP Call. The EPA lacks authority to issue a SIP Call unless the SIP is “substantially inadequate.” 42 U.S.C. § 7410(a)(2)(H), (k)(5). The thrust of Montana Sulphur’s argument is that the SIP Call was improper because the Montana SIP was not “substantially inadequate to attain or maintain” the SO₂ NAAQS, and did satisfy all of the statutory criteria of 42 U.S.C. § 7410(a)(2).

[6] Montana Sulphur contends that the EPA could not properly rely on *predicted* violations of NAAQS that were modeled in the Billings/Laurel area, because the EPA did not provide any reason to believe that there was an actual, monitored SO₂ violation in any location in the Billings area. Specifically, Montana Sulphur argues that the EPA’s reliance on dispersion modeling “provides an unrealistic picture of reality because it assumes that every single facility is always emitting as much pollution as it can possibly emit during every hour of the modeling run” and under “worst case” weather conditions.

[7] Contrary to Montana Sulphur’s contentions, the EPA did not ignore actual SO₂ monitoring data when it issued the SIP Call. Rather, the EPA expressly addressed these results and explained their shortcomings. In its Technical Support Document (“TSD”), which explained the rationale for the call, the EPA explained that it was “not practical, given the number and complexity of sulfur dioxide sources, to install a sufficient number of monitors to provide the spatial coverage provided by air quality dispersion models.” In fact, much of the data collected prior to the call (throughout the 1970s and ’80s) came from a monitoring network of just three to four sites in the Billings and Laurel area. The EPA further explained that the existing monitors were not located in areas of maximum concentration, and that areas “with the most severe exceedances according to the studies have never been monitored—or were once monitored but no longer.”

The EPA further addressed Montana Sulphur's complaint when it partially disapproved the SIP in 2002:

Monitoring is not more accurate than computer modeling, except for determining ambient concentrations under real-time conditions at a discrete location. Monitoring is limited in time as well as space. Monitoring can only measure pollutant concentrations as they occur; it cannot predict future concentrations when emission levels and meteorological conditions may differ from present conditions. Computer modeling, on the other hand, can analyze all possible conditions to predict concentrations that may not have occurred yet but could occur in the future.

67 Fed. Reg. at 22,185. *See Northern Plains Res. Council v. EPA*, 645 F.2d 1349, 1362-63 (9th Cir. 1981) (reliance on model without validation arbitrary only if "EPA ignored reliable data that so undermined the EPA model projections . . . that reliance on the model was irrational"); *Republic Steel Corp. v. Costle*, 621 F.2d 797, 805 (6th Cir. 1980) (approving use of modeling to predict future violations and incorporating "worst-case" assumptions regarding weather and full-capacity operations of pollutant sources).

[8] As the EPA also points out, the Clean Air Act expressly recognizes modeling as an appropriate regulatory tool. 42 U.S.C. § 7410(a)(2)(K)(i) requires SIPs to provide for "the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard."

[9] Montana Sulphur argues that the 1990 amendments to the Clean Air Act indicate a Congressional intent to eliminate the use of modeling. Section 7501(2) formerly defined a "nonattainment area" as "an area which is shown by moni-

tored data or which is calculated by air quality modeling (or other methods determined by the Administrator to be reliable) to exceed any [NAAQS].” In 1990, Congress deleted both the references to monitored data *and* air quality modeling, replacing them with a cross-reference to air quality designations in § 7407(d). Montana Sulphur would have a better argument if Congress had deleted the reference to modeling and left the reference to monitored data intact, but that is not what happened. In any event, the legislative history underlying the 1990 amendment clarifies that the EPA may rely on any “sound data” that is available, and that “where appropriate and necessary, the Agency may rely on modeling or on statistical extrapolation.” S. Rep. No. 101-228, at 15 (1989).

[10] Although the available evidence did not point unambiguously in any one direction, the EPA had plausible reasons for concern in 1993 about attainment given the proximity between Laurel (a nonattainment area) and Billings, the limitations of the existing monitoring methods, the indications from the modeling studies available, and the gravity of the health issues that SO₂ NAAQS seek to prevent. The EPA therefore did not act arbitrarily or capriciously by relying on predictive modeling to make the SIP Call in 1993.³

³Montana Sulphur also contends that the EPA had no statutory authority to demand a new attainment demonstration from the State of Montana because the relevant area was not officially designated as a “nonattainment area.” In its view, the EPA may only require attainment demonstrations when they are needed to assure that nonattainment areas will attain the NAAQS, and that the EPA should have first sought to re-designate the Billings area to “nonattainment” via the statutory process. 42 U.S.C. § 7407(d)(3).

However, § 7410(a)(1) requires states to submit SIPs that provide for the maintenance of NAAQS regardless of whether a nonattainment area has been designated; similarly, the EPA’s authority to declare a SIP “substantially inadequate” to attain or maintain NAAQS does not hinge on an area’s designation. 42 U.S.C. § 7410(k)(5). We have already determined that the EPA did not exceed its authority by making the SIP Call, and it necessarily follows that a new attainment demonstration is a logical and lawful part of responding to the SIP Call.

444 MONTANA SULPHUR & CHEMICAL CO. v. EPA

II. 2002 Partial Disapprovals of Montana Revised SIP

[11] Montana Sulphur next challenges several aspects of the 2002 partial EPA disapproval of the revised SIP.

A. Stack Height Credits

[12] One of the most vigorously contested issues in this protracted dispute is whether the EPA's computation of stack height was irrational. Montana Sulphur has a 100-meter high flue stack which was constructed after the 1993 SIP Call. Under EPA regulations, the EPA concluded the appropriate credit for that stack should be only 65 meters, and that the State of Montana's modeling assumptions using a greater stack height were therefore invalid. 67 Fed. Reg. at 22,209-22,238.

[13] The basic concern with stack height is this: a pollution source can lower ground-level, measured concentrations of pollution by raising the height of its stack and dispersing the pollution further into the atmosphere. Concerned that such a dispersion technique does not actually reduce the amount of pollution but merely spreads it around, Congress adopted 42 U.S.C. § 7423 to regulate the use of tall stacks. *See Sierra Club v. EPA*, 719 F.2d 436, 441 (D.C. Cir. 1983) (discussing legislative history). Rather than completely prohibiting the use of tall stacks, which do prevent some harmful downwash of pollutants near the source, the statute and regulations seek to strike a balance between elevating stack height to disperse pollution away from a source and preventing relocation of pollution from one site to others.

Finally, we note that the burden of producing a new attainment demonstration fell solely on the State of Montana's shoulders, and the State did not object. It is unclear how Montana Sulphur was injured by the attainment demonstration itself, as opposed to the specific disapprovals of the revised SIP which are discussed below.

[14] The formulas thus restrict a source from receiving credit for stack height that is higher than a Good Engineering Practice (“GEP”) figure. The applicable federal statutory provisions provide that emission limitations under an implementation plan “shall not be affected in any manner by . . . so much of the stack height of any source as exceeds good engineering practice (as determined under regulations to be promulgated by the [EPA].” 42 U.S.C. § 7423(a)(1). GEP is “the height necessary to ensure that emissions from the stack do not result in excessive concentrations of any air pollution in the immediate vicinity of the source as a result of atmospheric downwash, eddies, and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles.” 42 U.S.C. § 7423(c).

[15] The EPA regulations provide three possible options for calculating GEP stack height, and allow use of the greatest resulting number: (1) 65 meters (“de minimis” height); (2) the height calculated using one of two formulas (“formula height”), or (3) the height demonstrated using fluid modeling or field study (“above-formula” height). 40 C.F.R. § 51.100(ii). In the SIP, Montana had approved a modeling demonstration for Montana Sulphur’s 100-meter stack under Option 3, and concluded the creditable stack height was 97.5 meters. However, the EPA rejected Montana’s calculations and maintains that the de minimis 65 meters is the proper stack height figure. Montana Sulphur disagrees with several steps in the process which led the EPA to this conclusion.⁴

⁴Montana Sulphur does not directly challenge the calculation of “formula height” because Montana and the EPA addressed the stack height under Option 3 in the SIP. However, it does assert in passing that the only formula height in the record is 97.5 meters. This assumes that an 8-foot-wide, 310-foot-tall cylindrical steel structure which supports the flue stack can be considered a “nearby structure” under the regulations. The EPA, however, rejected this position. 67 Fed. Reg. at 22,223-22,229. Because the opening brief contains no argument as to why this determination regarding the support stack is arbitrary or capricious, we deem the issue waived. *Harger v. Dept. of Labor*, 569 F.3d 898, 904 n.9 (9th Cir. 2009).

1. New Source Performance Standards (“NSPS”)

[16] The EPA rejected Montana’s fluid modeling calculation of GEP stack height because, even though it used NSPS for the modeling, the SIP did not actually require Montana Sulphur to *meet* the NSPS emission rate. 67 Fed. Reg. at 22,209. Montana Sulphur concedes that NSPS may be used for *modeling* purposes, but contends that NSPS cannot be used as a *substantive emissions limit*, noting that the EPA regulations themselves state that the “allowable emission rate to be used in making *demonstrations* under this part shall be prescribed by the [NSPS] that is applicable to the source category” 40 C.F.R. § 51.100(kk)(1) (emphasis added).

[17] The EPA’s interpretation of its own regulation, however, is not unreasonable. The EPA explains that “allowable emissions” is a term of art it uses to denote an enforceable emission limit, not a mere assumed emission rate that may be disregarded later. The EPA claims it has always interpreted this language to require ongoing compliance with the NSPS, and notes that the term is used elsewhere in the stack height regulations as a substantive limit. 67 Fed. Reg. at 22,210.

The EPA further points out that § 51.100(kk)(1) allows a source to demonstrate that the NSPS emission rate is “infeasible,” and that there would be no reason to include this provision if the NSPS rate were a mere assumption in fluid modeling that need never actually be met. 67 Fed. Reg. at 22,212. We must review the provision as a whole and, where

Even if we were to consider the issue, the EPA has fully and persuasively explained why the stack support structure is properly considered part of the stack itself, rather than a nearby structure. 67 Fed. Reg. at 22,223-22,229.

Without inclusion of the support structure, the formula height is 47.8 meters. 73 Fed. Reg. at 21,446. Thus, Montana Sulphur could achieve greater stack height option only through Option 1 de minimus height or Option 3 above-formula modeling.

possible, effectuate every word. *See Boise Cascade Corp. v. EPA*, 942 F.2d 1427, 1432 (9th Cir. 1991).

The EPA's interpretation is also consistent with the views expressed in the preamble to the EPA stack height regulations, which states that the applicable section "has been revised . . . to specify that an emission rate equivalent to NSPS *must be met* before a source may conduct fluid modeling to justify stack height credit in excess of that permitted by the GEP formulae." 50 Fed. Reg. 27,892, 27,898 (July 8, 1985) (emphasis added); *see Las Vegas v. FAA*, 570 F.3d 1109, 1117 (9th Cir. 2009) (if regulation is ambiguous, "we consult the preamble of the final rule as evidence of context or intent of the agency promulgating the regulations").

Our conclusion is also consistent with that of the D.C. Circuit, which addressed the issue of stack height and the use of NSPS and concluded that the EPA has the discretion to impose NSPS requirements in the "above formula" context. *Natural Res. Def. Council, Inc. v. Thomas*, 838 F.2d 1224, 1241 (D.C. Cir. 1988). The court noted that above-formula credit should be granted with the "utmost caution" and that the selection of the NSPS baseline was consistent with this admonition. *Id.* (internal quotation marks omitted).

[18] In light of the foregoing, we conclude it was neither arbitrary nor capricious for the EPA to require the SIP to include NSPS limits consistent with the modeling demonstration.⁵

⁵To the extent Montana Sulphur argues it was treated differently from the ExxonMobil refinery because that source was not required to comply with NSPS rates in modeling or in reality, the EPA explains that the different treatment was because ExxonMobil performed fluid modeling to obtain credit for a *within-formula* stack height credit, not an *above-formula* stack height credit. 67 Fed. Reg. 22,215-22,216. NSPS are applied by EPA only in cases involving modeling to obtain credit for above-formula stack height credit. 67 Fed. Reg. at 22,215; *see also Thomas*, 838 F.2d at 1238-41; *id.* at 1232 (noting regulation's preference for within-formula stacks).

2. Ambient Air Quality Standards

[19] In calculating stack height credit, the regulations only permit a source to use stack height that is necessary to avoid an exceedance of “an ambient air quality standard.” 40 C.F.R. § 51.100(kk)(1). Therefore, lower exceedance standards can be used to justify a higher “stack height credit.” A source seeking to justify a higher stack will seek to establish that the downwash pollution effects of the stack are “excessive.” In such cases, a higher stack—which redistributes pollution over a wider area—is justified in order to prevent excessive local pollution effects. Thus, it matters whether NAAQS, versus more stringent state standards, control in calculating “excessive” local concentrations.

[20] Montana Sulphur argues that Montana’s emission rates (“MAAQS”) properly could be used as benchmarks for ambient air quality under § 51.100(kk)(1), because the regulation refers only to “an ambient air quality standard” whereas the regulations elsewhere describe “primary,” “secondary,” and “national” standards. 40 C.F.R. § 51.100(kk)(1) (emphasis added); 40 C.F.R. § 51.100(c), (d), (e). The EPA, however, insists that national standards, not Montana’s state-only annual SO₂ standard, should apply to the determination of what is an “excessive” concentration of SO₂ that exceeds an “ambient air quality standard” under these regulations.

[21] The regulation is ambiguous because it does not specifically identify which “ambient air quality standard” exceedances may be used to support the stack height. The preamble to the regulation, however, frequently refers to the use of NAAQS in addressing above-formula stack height and supports the EPA’s interpretation that national standards should provide the benchmark. 50 Fed. Reg. at 27,898-27,899; see *Las Vegas*, 570 F.3d at 1117-18.

Again, the EPA’s interpretation of its own regulation is reasonable. Using NAAQS versus the MAAQS as the applicable

benchmarks for the exceedance analysis comports with the purposes of 42 U.S.C. § 7423: using NAAQS prevents states from setting standards that might enable local industry to justify above-formula stack height credits that do not meet national standards, and better assures that the EPA will fulfill its obligations. *See Sierra Club*, 719 F.2d at 450 (EPA must make certain “the standard it derives in fact fairly approximates the stack height level needed to protect local health and welfare; in doing so, moreover, it should err on the side of reducing stack height, in keeping with Congress’s command that credit for stack heights above [formula] height be granted with ‘utmost caution’ ”).

3. Conclusion

[22] The applicable statutory provisions leave room for interpretation, and the applicable stack height regulations lend support to the EPA’s determinations on these complex points. We defer to the agency’s judgment in these technical matters, and conclude the EPA did not act arbitrarily or capriciously by rejecting Montana’s stack height credit calculation.

B. Flare Emissions

[23] The EPA also disapproved the revised Montana SIP in part because it failed to include any numerical emissions limits on flares. “Flaring” is a practice that provides for equipment to immediately release gases to a device (a flare) for incineration. It is used in emergencies (malfunctions) and some routine circumstances, such as startup, shutdowns and maintenance (collectively, “SSM”).

Montana included an emission rate assumption for each flare in its attainment demonstration, assuming limitations of 150 pounds of SO₂ per 3-hour period.⁶ However, in its

⁶Although Montana Sulphur suggests the selection of these figures was itself random and arbitrary, the record indicates that the rates included in this modeling were the product of discussion and investigation and based on area refineries’ run estimates.

revised SIP, Montana imposed instead a work practice standard during SSM that required “best practices” be used to minimize flaring, and eliminated any numerical emission limitations on flares. Montana concluded it was technically infeasible to regulate flares through numerical limits, but agreed with the 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.”

[24] Disapproval of the SIP was not arbitrary or capricious in these circumstances. Under the EPA’s regulations, a proposed SIP “must demonstrate that the measures, rules, and regulations contained in it are adequate to provide for the timely attainment and maintenance of the national standard that it implements.” 40 C.F.R. § 51.112(a); *see also Hall v. EPA*, 273 F.3d 1146, 1158 n.8 (9th Cir. 2001) (“An ‘attainment demonstration’ is a formal demonstration . . . that the pollution control measures contained in an implementation plan are adequate to provide for the timely attainment and maintenance of NAAQS.”). Here, Montana demonstrated the control strategies contained in the SIP *plus* a 150 lb/3-hour limit on flares would attain the NAAQS. The SIP itself, however, was missing the second part of the equation. Although Montana Sulphur contends flaring is not a significant source of SO₂ emissions, the EPA points to modeling evidence that the flare emissions likely were significant (219 tons/year/source)—well above the 100 tons/year threshold that can trigger major source permitting requirements. 67 Fed. Reg. at 22,182. Flare emissions can affect attainment, and limits on them reasonably can be required, particularly where the state has relied on such limits to demonstrate attainment. *See Michigan Dep’t of Env’tl. Quality v. Browner*, 230 F.3d 181 (6th Cir. 2000) (holding EPA properly disapproved Michigan SIP revision that permitted automatic exemption for source that violates emissions standards if violation results from SSM and meets other standards).

Note that at this point, we consider only whether the EPA acted rationally in disapproving the SIP for failing to include emission limitations that were otherwise part of the state's attainment demonstration. We discuss in further detail below, in the context of the FIP, whether the EPA can rationally limit flaring during SSM periods.

C. Auxiliary Vent Stacks and 30-Meter Stack

[25] The last set of challenged SIP disapprovals involves Montana Sulphur's five auxiliary vent stacks and its 30-meter stack. The SIP included a SO₂ limit of 12 lbs/3- hour period for these stacks. The EPA disapproved the limit because it did not restrict the sulfur content of the fuel burned, and because the SIP lacked a monitoring method that would make the limit practically enforceable. 67 Fed. Reg. at 22,170.

Montana Sulphur argues that the limit was not required because the emissions from these stacks are too small to have any practical effect on air quality; thus, it claims, monitoring methods to assure that the limit is met are unnecessary. While the EPA cannot require a state to adopt a particular control measure, *see Virginia*, 108 F.3d at 1407-08, the EPA has the power to assure that a SIP will achieve NAAQS, 42 U.S.C. § 7410(a)(2), and the Clean Air Act prohibits it from approving a SIP that would interfere with attainment, *see Browner*, 230 F.3d at 185.

[26] The State of Montana included the limit in its SIP as a control strategy. The EPA is thus not requiring Montana to adopt a particular control measure, but requiring Montana to include a monitoring method only where it relies upon such limits in its SIP for an attainment demonstration, which in turn was designed to assure that it achieved NAAQS. Thus, it was reasonable for the EPA to insist that the limit be enforceable. *See also Pennsylvania v. EPA*, 932 F.2d 269, 272 (3d Cir. 1991) ("[S]tandards cannot be maintained unless the measures taken to achieve them are enforceable.").

III. The FIP

A. Timeliness

[27] Montana Sulphur argues that the EPA lost its authority to promulgate a FIP when it failed to act within two years, as set forth in 42 U.S.C. § 7410(c).⁷ Section 7410(c)(1)(B) indicates that the EPA “shall promulgate a Federal implementation plan at any time within 2 years after” disapproval or partial disapproval of a SIP. While this is certainly an “explicit deadline,” as opposed to a more general requirement such as “after reasonable notice and public hearings,” *see generally General Motors Corp. v. United States*, 496 U.S. 530 (1990), it does not follow that the agency loses authority to act if it fails to meet that deadline. Rather, the Supreme Court has declined to treat a statutory requirement that an agency “‘shall’ act within a specified time, without more, as a jurisdictional limit precluding action later.” *Barnhart v. Peabody Coal Co.*, 537 U.S. 149, 158 (2003). “When, as here, there are less drastic remedies available for failure to meet a statutory deadline, courts should not assume that Congress intended the agency to lose its power to act.” *Brock v. Pierce Cty.*, 476 U.S. 253, 260 (1986).

[28] As the Court noted in *General Motors Corp.*, the Clean Air Act provides remedies for EPA inaction, including a suit to compel agency action or a request for reduction or elimination of penalties during any period of unreasonable agency delay. 496 U.S. at 542 n.4 (citing 42 U.S.C. §§ 7604(a)(2) & 7413(b)). We hold that in the absence of any Congressional indication otherwise, the failure to act within

⁷Although the EPA argues Montana Sulphur has waived this argument, we find Montana Sulphur sufficiently preserved the issue during the comments on the FIP proposal, where Montana Sulphur noted that the EPA failed to promulgate a FIP within two years, claimed that the EPA had “clear[ly] disregard[ed]” its requirement to do so, and asserted that numerous circumstances had changed, including modeling technology and cleanup, rendering the current action arbitrary and capricious.

two years does not utterly deprive the EPA of authority to promulgate the FIP. *See Nat'l Petrochemical & Refiners Ass'n. v. EPA*, 630 F.3d 145, 155-56 (D.C. Cir. 2010).

B. Limits on Flares during SSM

[29] Montana Sulphur contends that the EPA acted arbitrarily and capriciously by imposing numerical limits on flaring emissions during periods of unusual operations such as SSM. The FIP requires that emissions not exceed 150 lbs/3 hrs and also provides an affirmative defense to penalties for emissions that are beyond the company's control, such as during unusual events like SSM. *See* 73 Fed. Reg. at 21,431-21,437 (addressing comments to FIP); 73 Fed. Reg. at 21,459 (flare requirements); 73 Fed. Reg. at 21,464-21,465 (affirmative defense).

Montana Sulphur argues that: a numerical limit on flaring emissions is infeasible and violations will assuredly occur, *see Bunker Hill Co. v. EPA*, 572 F.2d 1286 (9th Cir. 1977); the EPA is acting inconsistently with its history of exempting flaring during SSM; the 150 lb./3-hour figure is based on unsupported state modeling; no deference should be given to the EPA's internal excess emissions policy (the "EEP")⁸; and enforcement discretion cannot compensate for infeasible requirements, *see Marathon Oil Co. v. EPA*, 564 F.2d 1253 (9th Cir. 1977).

[30] In turn, the EPA responds that it must provide for attainment of NAAQS at all times so a total exemption for SSM during flaring is inadequate, *see Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008); it is reasonable to encourage minimizing flare emissions, whether they are routine or during SSM; the numerical requirements are generally consistent

⁸EPA, Sept. 20, 1999, *State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup and Shutdown* (the "EEP" or the "Herman Memorandum").

with longstanding internal policies such as the EEP, *see Ariz. Public Serv. Co. v. EPA*, 562 F.3d 1116, 1129 (10th Cir. 2009); and the FIP provides relief for truly unavoidable emissions with an affirmative defense to penalties, 73 Fed. Reg. at 21,464-21,465.

Although not always consistently employed, as early as 1983, the EPA adopted a policy requiring continuous compliance with the Clean Air Act requirements but acknowledging that some leeway might be necessary for unusual events such as SSM.⁹ In 1999, the EPA's EEP identified several SIPs that did not comply with its policy and urged regions to review for compliance; this later memo also clarified that while outright exemptions for SSM were not acceptable, states could adopt an affirmative defense to penalties for unforeseeable and unavoidable exceedances, although noting that this may not be appropriate for SO₂ emissions where attainment problems are caused by one or only a few sources.

The FIP here contains such an affirmative defense, and the EPA indicates that other regulatory agencies, including the State of Colorado and Maricopa County, Arizona, have adopted similar criteria. 73 Fed. Reg. at 21,432. The EPA explains that although including the defense in the FIP is a slight deviation from the EEP (because in the Billings/Laurel area one or more sources may have the potential to cause an exceedance of the SO₂ limits),¹⁰ experience since the time the EEP was issued led the agency to conclude that the elements of the affirmative defense provide “a very significant incentive for facilities to do all they can to comply with their emission limits” and that this approach—numerical limits plus the

⁹EPA, February 15, 1983, *Policy on Excess Emissions During Startup, Shutdown, Maintenance and Malfunction*.

¹⁰We note, therefore, that to the extent the EPA is being inconsistent with its prior policy, it actually enures to Montana Sulphur's benefit by providing an affirmative defense to penalties where the 1999 memo suggests one should not be provided.

affirmative defense—“appropriately and reasonably addresses industry concerns” regarding safety. 73 Fed. Reg. at 21,435.

[31] Other circuits have endorsed the EPA’s position that the Clean Air Act requires continuous compliance, including during SSM. The Sixth Circuit rejected a challenge to the EPA’s disapproval of a Michigan SIP which had provided an automatic exemption from emission limits during SSM. *Mich. Dep’t of Env’tl. Quality v. Browner*, 230 F.3d 181 (6th Cir. 2000). The Sixth Circuit deferred to the EPA’s interpretation of the Clean Air Act that broad exclusions from compliance with emissions limitations during SSM could jeopardize ambient air quality and upheld the SIP disapproval. *Id.* at 185; see also *Ariz. Public Serv. Co.*, 562 F.3d at 1127, 1129 (rejecting challenge to EPA’s “refusal to exempt excess emissions caused by malfunctions,” and concluding that the policy “is a reasonable interpretation of the Clean Air Act” because “excess emissions resulting from malfunctions are violations of the Clean Air Act, for such emissions can interfere with attainment of the national air standards”).

In fact, when the EPA attempted to be more lax under another section of the Clean Air Act by permitting good work practices for emissions during SSM events rather than imposing numerical emission limits, the D.C. Circuit concluded that the “SSM exemption violates the [Clean Air Act’s] requirement that some section 112 standard apply continuously,” and vacated the exemption. *Sierra Club*, 551 F.3d at 1028.

[32] Montana Sulphur also contends that the actual numerical limits imposed by the EPA are arbitrary, going beyond what is necessary to satisfy the NAAQS, claiming the EPA simply “seized upon” and accepted Montana’s decision to impose a 150 lb/3-hour limitation on flares. However, in response to a similar comment, the EPA explained in its final rule:

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 $\mu\text{g}/\text{m}^3$ *which would exactly meet* the 24-hour SO_2 NAAQS of 365 $\mu\text{g}/\text{m}^3$ when background concentrations of 11 $\mu\text{g}/\text{m}^3$ are considered.

73 Fed. Reg. at 21,439 (emphasis added).

Finally, the EPA acknowledges that violations are likely inevitable, but relies on the provision of an affirmative defense to compensate for the infeasibility problem. Montana Sulphur claims that the possibility of “enforcement discretion” is insufficient to require compliance with an infeasible limitation. However, here the EPA does not rely on enforcement discretion alone, but specifically promulgates an affirmative defense in the FIP, which clearly defines the requirements to avoid penalties.

Although Montana Sulphur argues that there is no rational basis to limit the affirmative defense to penalties and that the defense should extend to injunctive relief as well, the EPA persuasively explains that “[t]here 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” and that “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.” 73 Fed. Reg. at 21,435-21,437.

[33] In sum, we conclude that the EPA reasonably interpreted the Clean Air Act to require continuous limits on emissions and that the actual numerical limits imposed by the FIP are neither arbitrary nor capricious.

C. Flare Monitoring Technology

[34] Montana Sulphur further argues that the EPA acted arbitrarily and capriciously by requiring implementation of flare monitoring technology that does not exist. It contends that it is technically infeasible to monitor low rates of flow to flares during routine operations, and that the required “total sulfur” monitors exist only in pilot testing.

[35] However, Montana Sulphur repeats its objections to the initially proposed FIP without addressing the modifications the EPA made in the final FIP to accommodate these concerns. With respect to the concern that flare flow monitors cannot monitor accurately at low flow velocities (under 1.0 fps), the EPA responded that: (1) it had based the requirement on what it saw was achievable in vendor literature and required in at least two other areas, 73 Fed. Reg. at 21,425; (2) it modified the accuracy requirement from +/- 5% to +/- 20% when dealing with low flows between 0.1 and 1 fps, 73 Fed. Reg. at 21,426; and (3) it implemented a secondary means for companies to determine whether flow is reaching the flare when the flow monitor indicates low flow, 73 Fed. Reg. at 21,426.

[36] With respect to the total sulfur monitors, Montana Sulphur is correct that these monitors appear to have primarily been in pilot testing at the time of the FIP, though the EPA does identify two sources where analyzers are on lines leading to refinery flares, and did revise the FIP to give industry a full year to install the monitors. 73 Fed. Reg. at 21,427-21,428. Moreover, the EPA also revised the final FIP to allow other methods to determine total sulfur concentration, including “grab” or “integrated” sampling. 73 Fed. Reg. at 21,429. Thus, the availability of total sulfur concentration monitoring is something of a red herring since the company can use an alternate means to measure sulfur. 40 C.F.R. § 52.1392(h)(3). Montana Sulphur does not point to any evidence in the record that grab sampling is technically infeasible.

D. Variable versus Fixed Emission Limits

[37] Montana Sulphur contends that the EPA acted arbitrarily and capriciously when it granted variable emission limits to a nearby power plant and the ExxonMobil refinery, but imposed fixed emission limits on it instead. In Montana's SIP, the state used a variable emissions limit for all three sources, which involved a computer dispersion model that required Montana to run 1,320 modeling scenarios. 73 Fed. Reg. at 21,444. However, as discussed above, in that modeling, Montana had improperly calculated the stack height credit for Montana Sulphur's primary 100-meter stack (*see* section II.A., *supra*). Because the EPA disapproved the SIP's use of the stack height credit in the modeling calculation, it was left with no fixed *or* variable emissions limit for Montana Sulphur; thus, it needed to fill this gap with the FIP. 67 Fed. Reg. at 22,170, 22,206.

The EPA explained that it considered fixed emissions limits to be easier to model, monitor and enforce, 71 Fed. Reg. at 39,268, and that this was the type of limit used at virtually every other source in the country (with the exception of the other two Montana sources). 73 Fed. Reg. at 21,444-21,445. The EPA also notes that based on past reporting data, it appeared Montana Sulphur would be able to attain the fixed limit without the need for any additional pollution controls. 71 Fed. Reg. at 39,268.

[38] Because the EPA would have primary enforcement responsibility regarding the FIP and the Montana Sulphur emissions, it chose what it perceived as a simpler method. Although the EPA approved Montana's use of the variable limits with respect to the other two sources, the emission limits at play there did not involve improper stack calculations, and, in addition, *the State* was primarily responsible for ensuring the other sources' compliance with the variable limits. Montana Sulphur does not point to any other source in which the EPA itself imposed variable limits in a FIP. Moreover, the

EPA expressed reservations about the State's use of the variable limits as to the other sources; it indicated it would be monitoring the situation closely and might reconsider its approval of those conditions if doubts arose about the accuracy of the monitoring and/or reporting under that system. 67 Fed. Reg. at 22,207.

[39] Thus, contrary to Montana Sulphur's argument, this is not a case where the EPA "depart[ed], sub silentio, from its usual rules of decision to reach a different, unexplained result in a single case." See *Western States Petroleum Ass'n v. EPA*, 87 F.3d 280, 284 (9th Cir. 1996) (quotation marks omitted). Rather, it offered a reasonable explanation for why it selected a different type of emissions limit than the State had chosen, and, in fact, explained that fixed emissions limits are the norm and the preferred method. 73 Fed. Reg. at 21,444-21,445.

E. Auxiliary Stacks/30-Meter Stack

[40] Montana Sulfur next argues that the EPA acted arbitrarily and capriciously by imposing emission limits and monitoring requirements regarding Montana Sulphur's auxiliary stacks and 30-meter stack. Montana Sulphur argues that the requirements are unnecessary to comply with the NAAQS because the emissions are extremely small and have no practical effect on NAAQS.¹¹ It also contends that the "worst case scenario" calculation by the EPA ignores reality because Montana Sulphur cannot vent all five boilers to the auxiliary stacks and still operate its plant.

As discussed above, the EPA partially disapproved Montana's limitations on the auxiliary stacks and the 30-meter stack because there was no restriction on the sulfur content of

¹¹These general arguments about the necessity of regulating these small stacks overlap with Montana Sulphur's objections to the SIP Call and partial disapproval of the SIP and, to the extent they do, are governed by the discussion in Sections I and II above.

the fuel when exhausting through these stacks and because the SIP lacked a monitoring method to make the mass emission limits practically enforceable. 67 Fed. Reg. at 22,170. The FIP adopted the same mass emission limits that the state had imposed in the SIP—12 lbs/3 hours—and added monitoring requirements to ensure compliance with the limits. 73 Fed. Reg. at 21,451-21,452.

As for the arbitrariness of the actual limits and monitoring requirements, it was reasonable for the EPA to use the state's original emission limitations for consistency because they were a piece of the state's overall control strategy supporting attainment. The EPA further points out that (1) the final FIP was revised to allow Montana Sulphur to use its existing "length-of-stain detector tubes" for monitoring rather than requiring the portable analyzers suggested in the initial proposal, 73 Fed. Reg. at 21,446 (noting that the final FIP was similar to the state operating permit requirements that already applied to Montana Sulphur); and (2) the final FIP increased the concentration limits on the fuel burned in the units from 100 ppm/3 hours to 160 ppm/3 hours to accommodate Montana Sulphur's concern that it was too restrictive, noting that modeling using 160 ppm for up to three hours would still meet attainment requirements (but not if emissions were at this level for the entire day) and that evidence indicated Montana Sulphur should already be within these limits in light of the SIP's requirement of burning only "low sulfur" gas and the fuel gas scrubbing technology it uses. 73 Fed. Reg. at 21,446-47.

The EPA also explains that its modeling assumption that all units were venting to the stacks, whether this would ever happen, was a way of simplifying monitoring and compliance for Montana Sulphur. Under this model, Montana Sulphur needed only to measure H₂S ppm concentration (using its existing monitoring device) to determine compliance, whereas direct compliance per boiler stack would either require additional monitoring equipment or methods or be unreliable due to

potential variation in boiler use and venting practices. 73 Fed. Reg. at 21,446-21,447 & 21,452. The EPA sums up its decision in its final FIP:

We believe additional monitoring equipment would need to be installed, or additional monitoring would need to be performed, at greater expense to [Montana Sulphur], to achieve adequate method 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.

73 Fed. Reg. at 21,447.

[41] Thus, the specific emission limits and monitoring requirements imposed by the FIP, based on revised emission models and that allow Montana Sulphur to use existing technology, were not arbitrary or unreasonable.

F. Proper Stack Height Credit

[42] This issue is addressed in Section II.A above, regarding the 2002 SIP disapproval. Because we previously concluded that the EPA properly rejected Montana's calculated stack height credit in the SIP and that it was proper to use the 65-meter de minimis figure instead, *see* 40 C.F.R. § 51.118, we likewise hold here that the EPA did not act arbitrarily in using that figure in the FIP.¹²

¹²We further note that, in its 2006 comments to the proposed FIP, Montana Sulphur merely summarized and reiterated its objections from the SIP disapproval process and the EPA incorporated by reference the reasons it had already articulated for rejecting those arguments. 73 Fed. Reg. at 21,445; 67 Fed. Reg. at 22,223-22,229; *see also* 73 Fed. Reg. at 21,446 ("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."). Although Montana Sul-

G. Emission Limits from Consent Decrees

[43] Montana Sulphur claims the EPA acted arbitrarily and capriciously because the FIP did not take into account the reduced emission limits resulting from certain consent decrees and Montana air quality permit changes entered into between sources such as ExxonMobil, CHS Refineries, and the State of Montana. Montana Sulphur contends it was irrational for the EPA to ignore the effects of these consent decrees, which were entered into after the 2002 SIP disapproval but before the 2006-2008 FIP.

The EPA offered three justifications for declining to consider the emission reductions that resulted or will result from those consent decrees and permit changes. First, it noted that Montana did not actually make any revisions to the SIP to address the flaws in that document, and, having disapproved portions of the SIP, the EPA was required to fill those gaps. 73 Fed. Reg. at 21,421. Second, the EPA noted that even though federally enforceable, some of the state permits can be revised without EPA approval and the consent decrees have a “limited lifespan”; it opined that stationary source emission limits necessary to demonstrate attainment must be included in the FIP or approved SIP so that changes to those limits may only be made with its approval. *Id.* Finally, the EPA explained that the emission limits within the consent decrees and permit actions do not contain limits that are consistent with the averaging times of the NAAQS, specifically the 3-hour and calendar-day averaging periods. 73 Fed. Reg. at 21,422. For example, the CHS permit and decree impose ppm limits for 7-day and 365-day rolling averages instead of mass

phur criticizes the EPA for failing to respond to its additional comments and data, the EPA points out that these comments were not presented to the EPA until March of 2008, many months after the comment process had closed and only a few weeks before the final FIP was issued. Thus, the EPA was not required to consider these untimely comments. *See Bd. of Regents of Univ. of Wash. v. EPA*, 86 F.3d 1214, 1222 (D.C. Cir. 1996).

pound limits per 3-hour and calendar-day periods. *Id.* The EPA pointed out that “[n]one 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.” *Id.*

[44] In light of the specific procedures in place for SIP approval or disapproval and the responsibility of the EPA to promulgate a FIP when the state plan is inadequate in some respect, we conclude the EPA’s position is justified. The EPA correctly reads 42 U.S.C. § 7410(a)(2) as requiring states to include enforceable emission limits and other control measures *in the plan itself*. Whatever requirements may exist in the consent decrees and construction permits (which may or may not be equivalent to the requirements of the FIP, since they are measured by different means over a different time frame), they are not part of the underlying SIP and the EPA here has authority to fill the gaps in the portions of the SIP it had previously disapproved.

H. Outdated Modeling Methodology

[45] Finally, Montana Sulphur argues that the EPA acted arbitrarily and capriciously because it used outdated modeling in the FIP. In the FIP, the EPA used the Industrial Source Complex (“ISC”) model, which was the preferred model at the time Montana proposed its SIP. In 2005, the EPA revised its Guideline on Air Quality Models and recommended use of a new dispersion model—AERMOD. 70 Fed. Reg. 68,218 (Nov. 9, 2005). However, the rule grandfathered ISC models for one year (through Nov. 8, 2006), and indicated that during that time AERMOD could, but was not required to, be substituted for ISC for appropriate applications.¹³ The EPA proposed the FIP in July 2006, within the one-year transition period.

¹³In addition, even after the one-year transition period, applications of ISC with approved protocols were still acceptable under the regulations. 70 Fed. Reg. at 68,226.

In issuing the final FIP in April 2008, the EPA further defended its choice to stick with the ISC dispersion model:

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 SO₂ 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. . . .

We note that MDEQ tested the performance of the ISC model when the Billings/Laurel SO₂ SIP was being developed, and the results showed that the model performance exceeded the performance criteria for models of this type. . . .

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.

73 Fed. Reg. at 21,437-21,438.

[46] The EPA's continued use of the ISC model was not arbitrary or capricious. The model was properly employed at both the time of the state SIP and the proposed FIP. The FIP did not replace the entire SIP, but only the limited portions the EPA had disapproved; because use of a different model could have yielded results that did not comport with the remainder of the SIP, it was not arbitrary or capricious for the EPA to continue with the existing model despite some later technological improvements.

CONCLUSION

[47] For the foregoing reasons, we conclude the EPA did not act arbitrarily or capriciously or abuse its discretion by making the SIP Call, disapproving portions of the revised SIP, or promulgating the requirements set forth in the FIP. We therefore deny the petition for review in both 02-71657 and 08-72642.

PETITIONS DENIED.