

FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

STATE OF ARIZONA, EX REL. HENRY
R. DARWIN, Director, Arizona
Department of Environmental
Quality,

Petitioner,

v.

U.S. ENVIRONMENTAL PROTECTION
AGENCY; LISA P. JACKSON,
Administrator, United States
Environmental Protection Agency,

Respondents,

NATIONAL PARKS CONSERVATION
ASSOCIATION; SIERRA CLUB,

Respondent-Intervenor.

No. 13-70366

SALT RIVER PROJECT
AGRICULTURAL IMPROVEMENT AND
POWER DISTRICT,
Petitioner,

No. 13-70410

OPINION

v.

U.S. ENVIRONMENTAL PROTECTION
AGENCY,
Respondent,

NATIONAL PARKS CONSERVATION
ASSOCIATION; SIERRA CLUB,
Respondent-Intervenors.

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

Argued and Submitted
March 9, 2015—San Francisco, California

Filed February 24, 2016

Before: Marsha S. Berzon, Jay S. Bybee,
and John B. Owens, Circuit Judges.

Opinion by Judge Berzon

SUMMARY*

Environmental Law

The panel denied consolidated petitions for review of a Final Rule, promulgated by the Environmental Protection Agency under the Clean Air Act, that partially disapproved Arizona’s regional haze State Implementation Plan (“SIP”) – setting forth emission limits and other measures – and issued a Federal Implementation Plan (“FIP”) in place of the disapproved SIP elements.

The panel held that the EPA did not act arbitrarily and capriciously when it disapproved in part the SIP’s “best available retrofit technology” for the Coronado Generating Station, a coal-fueled power plant located in Eastern Arizona, and when it issued a replacement FIP as to the disapproved portions. The panel also held that the EPA did not err procedurally in promulgating the FIP in the same rule as its partial disapproval of the SIP.

The panel held that its ultimate review of the EPA’s FIP must await the EPA’s final action on its proposal to revise the FIP in specific respects. Accordingly, the panel stayed the proceedings as to evaluation of the FIP’s technical feasibility until the administrative process was complete.

* This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

COUNSEL

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Angeline Purdy (argued), United States Department of Justice; Robert G. Dreher, Acting Assistant Attorney General, Washington, D.C., for Respondent United States Environmental Protection Agency.

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OPINION

BERZON, Circuit Judge:

Congress initially enacted the Clean Air Act (“the Act” or “CAA”) in 1963 to “protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population.” 42 U.S.C. § 7401(b)(1). Later, in the Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 128, 91 Stat. 685, 742 (current version at 42 U.S.C. § 7491), Section 169A was added “in response to a growing awareness that visibility was rapidly deteriorating in many places, such as wilderness areas and national parks.” *Am. Corn Growers Ass’n v. EPA*, 291 F.3d 1, 3 (D.C. Cir. 2002) (internal quotation marks omitted) (quoting *Chevron U.S.A., Inc. v. EPA*, 658 F.2d 271, 272 (5th Cir. 1981)).

To improve outdoor visibility, the Act as amended “invites each State to submit to EPA a ‘State Implementation Plan’ (‘SIP’) setting forth emission limits and other measures necessary to make reasonable progress toward the national visibility goal.” *Nat’l Parks Conservation Ass’n v. EPA*, 788 F.3d 1134, 1138 (9th Cir. 2015) (“*NPCA*”) (citing 42 U.S.C. §§ 7410(a), 7491(b)(2)). SIPs must include determinations of the “best available retrofit technology” (“BART”) to reduce emissions from certain major emission sources, including large fossil-fuel power plants. 42 U.S.C. § 7491(b)(2). If a state chooses not to submit a SIP, or if EPA disapproves a SIP in whole or in part, “the Act requires

EPA to produce a ‘Federal Implementation Plan’ (‘FIP’) for that State.” *NPCA*, 788 F.3d at 1138–39 (citing 42 U.S.C. § 7410(c)(1)(A)).

Arizona and the Salt River Project Agricultural Improvement and Power District (“the State” and “SRP,” respectively, and, collectively, “Petitioners”) petition for review of a Final Rule (“Rule”) promulgated by EPA. The Rule partially disapproved Arizona’s regional haze SIP submission and promulgated a FIP in place of the disapproved SIP elements. Approval, Disapproval and Promulgation of Air Quality Implementation Plans, 77 Fed. Reg. 72,512 (Dec. 5, 2012) (the “Final Rule”). In what remains of this case,¹ Petitioners challenge (1) EPA’s disapproval of Arizona’s BART determinations, and (2) the FIP’s replacement determinations, concerning nitrogen oxides (NO_x) emission limits at Coronado Generating Station (“Coronado”), a two-unit, 733-megawatt coal-fueled power plant located in Eastern Arizona.

We conclude that EPA did not act arbitrarily and capriciously when it disapproved in part the SIP’s BART determinations for Coronado and issued a replacement FIP as to the disapproved portions. We therefore deny the consolidated petitions for review.

¹ See *infra* note 6.

I. STATUTORY AND REGULATORY BACKGROUND

A. The Clean Air Act's Visibility Protections

In enacting Section 169A² Congress “declare[d] as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.” § 7491(a)(1). “Class I” Federal areas include certain national wilderness areas and national parks. Arizona contains twelve Class I areas, the largest of which is Grand Canyon National Park.

Section 169A seeks to reduce “regional haze,” that is, “visibility impairment caused by geographically dispersed sources emitting fine particles and their precursors into the air.” *Am. Corn Growers*, 291 F.3d at 3 (internal quotation marks omitted). In service of this goal, Section 169A requires that certain sources contributing to visibility impairment install BART—which, again, is an acronym for “best available retrofit technology.”³ States must review all major stationary emissions sources built between 1962 and 1977 to determine whether the source “emits any air pollutant

² We use “Section 169A” to refer generically to the visibility amendments, but use the codified version, 42 U.S.C. § 7491, for specific citations.

³ We apologize for the extensive use of acronyms in this opinion and include a brief glossary at the end to aid the reader. Environmental litigation is awash in such alphabetical shorthand, and the “insiders” would not know what we meant if we used other terms. We have therefore decided against expanding the Federal Reporter 3d (F.3d, of course, another shorthand) by stubbornly spelling out each term.

which may reasonably be anticipated to cause or contribute to any impairment of visibility in” any Class I area. § 7491(b)(2)(A). The states are then responsible for determining the appropriate BART controls for each source. *See* 42 U.S.C. § 7491(b)(2)(A), (g)(2).

EPA reviews the states’ SIP submissions, if any, for consistency with the statute and regulations. *See* 42 U.S.C. § 7410(c)(1)(A); *Oklahoma v. EPA*, 723 F.3d 1201, 1204 (10th Cir. 2013). If EPA determines that a SIP does not meet the Act’s requirements, the federal agency may itself determine BART and impose a FIP. *See* 42 U.S.C. § 7491(b)(2)(A). More specifically, if EPA finds that a state has not submitted a required SIP, determines that a submitted SIP is incomplete, or disapproves a SIP in whole or in part, it “shall promulgate a [FIP] at any time within 2 years.” 42 U.S.C. § 7410(c)(1). EPA must promulgate a FIP “unless the State corrects the deficiency, and [EPA] approves the plan or plan revision, before [EPA] promulgates [the FIP].” *Id.*

When determining BART, states or EPA must consider five factors: “[1] the costs of compliance, [2] the energy and nonair quality environmental impacts of compliance, [3] any existing pollution control technology in use at the source, [4] the remaining useful life of the source, and [5] the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.” 42 U.S.C. § 7491(g)(2). Each source subject to the BART requirement must install and operate BART “as expeditiously as practicable but in no event later than five years after the date of approval of a [SIP] . . . or the date of promulgation of [a FIP].” 42 U.S.C. §§ 7491(g)(4).

B. EPA Regional Haze Regulations

Section 169A directed EPA to issue regulations requiring states with Class I areas within their borders to submit SIPs containing “emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal.” 42 U.S.C. § 7491(b)(2). EPA was also required to develop guidelines for the states “on appropriate techniques and methods for implementing” Section 169A. *Id.* § 7491(b)(1). In 1990, Congress added Section 169B to expand the CAA’s focus to include regional haze, *see* 42 U.S.C. § 7492—that is, “visibility impairment that is caused by the emission of air pollutants from numerous sources located over a wide geographic area,” 40 C.F.R. § 51.301. “Section 169B requires, among other things, that EPA undertake research to identify ‘sources’ and ‘source regions’ of visibility impairment in Class I areas, consider designating transport commissions to study the interstate movement of pollutants, and establish a transport commission for the Grand Canyon National Park.” *Am. Corn Growers*, 291 F.3d at 4.

Pursuant to Sections 169A and 169B, EPA in 1999 promulgated regional haze regulations. 64 Fed. Reg. 35,714 (July 1, 1999) (codified at 40 C.F.R. § 51.300–309). The D.C. Circuit partially vacated those regulations in *American Corn Growers Ass’n v. EPA*, 291 F.3d at 6.⁴ Thereafter, the agency in 2005 promulgated new regulations, the Regional Haze Regulations and Guidelines for Best Available Retrofit Technology (BART) Determinations, 70 Fed. Reg. 39,104 (July 6, 2005) (“Haze Regulations”). At the same time, EPA issued Guidelines to help states identify “BART-eligible”

⁴ *American Corn Growers* is discussed *infra*, at p. 21.

sources and determine the appropriate BART for each source. *Id.* at 39,156 (codified at 40 C.F.R. pt. 51, app. Y) (“Guidelines”); *see also* 42 U.S.C. § 7491(b).

The Haze Regulations set a goal of achieving natural visibility at all Class I areas by 2064. 40 C.F.R. § 51.308. Toward that end, the Regulations direct states to submit SIPs to EPA containing “goals (expressed in deciviews) that provide for reasonable progress towards achieving natural visibility conditions.” 40 C.F.R. § 51.308(d)(1). A “deciview” is a measurement of visibility impairment. More specifically, it “is a haze index derived from calculated light extinction, such that uniform changes in haziness correspond to uniform incremental changes in perception across the entire range of conditions, from pristine to highly impaired.” 40 C.F.R. § 51.301. One deciview is the minimum visibility impairment humans can perceive. *See Guidelines* at 39,120 n.32.

The SIP must also include, among other matters, “emission limitations representing BART and schedules for compliance with BART for each BART-eligible source that may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area.” 40 C.F.R. § 51.308(e). The BART requirements apply unless the state opts to implement an alternative emission control measure that provides greater progress than would be achieved through the installation of BART (commonly referred to as “better-than BART”). *See id.* § 51.308(e)(2).

BART is defined as “an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility.”

Id. § 51.301. Three of the major pollutants that states must evaluate when determining whether a source causes or contributes to visibility impairment are sulfur dioxide (“SO₂”), nitrogen oxides (“NO_x”), and particulate matter. *See* Guidelines at 39,162. States must establish BART for each pollutant. *Id.* at 39,163.

BART determinations for fossil-fueled power plants with a total generating capacity greater than 750 megawatts must comply with the Guidelines. 42 U.S.C. § 7491(b)(2). The Guidelines set forth the following five-step process: (1) identify all available retrofit control technologies; (2) eliminate technically infeasible options; (3) evaluate the control effectiveness of remaining control technologies; (4) evaluate impacts and document the results; and (5) evaluate the visibility impacts. Guidelines at 39,164. The Guidelines also provide more detailed instructions for performing each of these steps. *Id.* at 39,164–72. “For sources other than 750 MW power plants . . . States retain the discretion to adopt approaches that differ from the [G]uidelines.” Guidelines at 39,158.

Section 309 of the Haze Regulations, 40 C.F.R. § 51.309, allows certain western states to develop alternative visibility improvement programs, based on the recommendations of the Grand Canyon Visibility Transport Commission (“the Commission”). The Commission was created to address visibility impairment “for the region affecting the visibility of the Grand Canyon National Park.” *See* 42 U.S.C. § 7492(f). This region includes sixteen Class I areas on the Colorado Plateau located in Arizona, Colorado, New Mexico, and Utah. 40 C.F.R. § 51.309(b). States within the relevant Transport Region—Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming—that submit a SIP

compliant with all of the Commission’s recommendations are “deemed to comply with the requirements for reasonable progress with respect to the 16 Class I areas.” *Id.* § 51.309(a). Any covered state that elects not to submit a Section 309 plan is “subject to the requirements of [Section 308] in the same manner and to the same extent as any State not included within the Transport Region.” *Id.* Further, even if a state submits a Section 309 SIP, it must submit a Section 308 SIP or otherwise establish “reasonable progress goals” — including BART determinations — for any Class I areas in the state not covered under Section 309. *Id.* § 51.309(g)(2).

II. PROCEDURAL HISTORY

A. The State’s SIP Submissions

The Haze Regulations set a December 17, 2007 deadline for SIP submittals. 40 C.F.R. § 51.308(b). EPA issued a finding on January 15, 2009, that thirty-seven states, including Arizona, had not submitted SIPs satisfying the Act’s visibility requirements. Finding of Failure To Submit State Implementation Plans Required by the 1999 Regional Haze Rule, 74 Fed. Reg. 2,392 (Jan. 15, 2009). Noting that Arizona had “opted to develop [its SIP] based on the recommendations of the Grand Canyon Visibility Transport Commission” pursuant to Section 309, *id.* at 2,393, EPA found that the State had failed to “submit the plan elements required by” two provisions of the Section 309 regulations, 40 C.F.R. §§ 51.309(d)(4) and 51.309(g).⁵ *Id.* EPA further

⁵ Arizona’s Section 309 SIP, which Arizona submitted to EPA on December 23, 2003, and supplemented a year later, merits further explanation. EPA did not act upon the State’s 2003 and 2004 submissions. The Section 309 regulations were revised in October 2006,

explained that “[t]his finding starts the two year clock for the promulgation by EPA of a FIP.” *Id.*

Although EPA determined that its January 2009 finding triggered the Act’s two-year window, *see* 42 U.S.C. § 7410(c)(1), it did not take any further action by January 2011. Several environmental groups sued EPA in early 2011 to compel the agency to promulgate FIPs for the states covered by the January 2009 finding. *See Nat’l Parks Conservation Ass’n v. EPA*, No. 11-CV-01548 (D.D.C.). EPA and the plaintiff groups entered into a Consent Decree setting deadlines for EPA action for each state covered by the

following the D.C. Circuit’s decision in *Center for Energy and Economic Development v. EPA*, 398 F.3d 653 (D.C. Cir. 2005). *See* 71 Fed. Reg. 60,612 (Oct. 13, 2006). Arizona then resubmitted its Section 309 SIP to EPA in December 2008, acknowledging that the plan did not include provisions required under 40 C.F.R. §§ 51.309(d)(4) and 51.309(g) as revised. In 2013, EPA disapproved the Section 309 SIP because of these deficiencies. 78 Fed. Reg. 48,326 (Aug. 8, 2013).

Arizona contends that, as EPA did not expressly find that its Section 309 SIP was incomplete within six months of its initial submission in 2003, the plan became complete by operation of law. Thus, it contends, 42 U.S.C. § 7410(k)(2) required EPA to disapprove its SIP within one year, which, of course, it did not do. But, as EPA noted in its 2013 disapproval, the fact that Arizona’s submission met the completeness criteria set out in § 7410(k) “[did] not mean that [it was] complete in the sense that [it] contained the provisions necessary to satisfy the requirements of [Section 309].” 78 Fed. Reg. at 48,327. The § 7410(k) criteria “do not include the substantive provisions that a given SIP must include to comply with the minimum requirements of the [Act].” *Id.* Those provisions are instead “set out in the [Act] itself and in EPA’s implementing regulations.” *Id.* EPA concluded that it could not approve Arizona’s previously submitted SIP until it was resubmitted with valid provisions for addressing stationary sources, provisions Arizona has conceded were not included in the 2003 plan. *Id.*

lawsuit. For Arizona, the Consent Decree required EPA by November 15, 2012 either to approve the State's SIP with respect to its BART determinations or to propose a FIP.

To avoid a FIP, Arizona elected to develop a Section 308 SIP; it was submitted to EPA on February 28, 2011. The SIP proposed progress goals and long term strategies to achieve those goals, including BART determinations. Specifically, the SIP included BART determinations for emission units at three fossil fuel power plants that Arizona concluded were BART-eligible and subject to BART: Apache Generating Station Units 1–3, Cholla Power Plant Units 2–4, and Coronado Generating Station Units 1–2. Only the SIP's determinations as to Coronado are at issue in this case.⁶

Overall, the State's BART determinations for NO_x, the pollutant with which we are concerned here, consisted of “combustion controls, either in the form of low-NO_x burners (LNB) with flue gas recirculation (FGR), or LNB with overfire air (OFA) or separated overfire air (SOFA).” 77 Fed. Reg. 42,834, 42,842 (July 20, 2012). For Coronado, Arizona

⁶ The State and other industry petitioners (Arizona Electric Power Cooperative, Arizona Public Service Company, and PacifiCorp) initially filed petitions for review of the Final Rule's determinations as to Apache and Cholla, and we consolidated our review of those petitions with this case. On February 20, 2015, we ordered the litigation with respect to Cholla severed and held in abeyance pending completion of state and federal administrative proceedings that could render the petitions for review moot. As of the publication of this opinion, those proceedings have not yet been completed. On June 17, 2015, we dismissed the petitions as to Apache after EPA issued a final action approving a source-specific revision to the SIP that established a BART alternative for Apache and withdrawing the portions of the FIP addressing BART for Apache. *See* Approval and Promulgation of Air Quality Implementation Plans, 80 Fed. Reg. 19,220 (Apr. 10, 2015).

determined that the proper control technology was low-NO_x burners with overfire air. Translating the chosen technology into the resulting emission improvement, the SIP established enforceable NO_x emissions limits of 0.32 lb/mmBtu for both units of the Coronado facility.⁷

B. EPA's Actions

In July 2012, EPA proposed (1) partially to approve and partially to disapprove the State's BART determinations with respect to the three power plants in its Section 308 SIP; and (2) to promulgate a FIP for the disapproved elements. 77 Fed. Reg. at 42,834. EPA deferred taking action "on the State's other BART determinations or any other parts of the SIP regarding the remaining requirements of the [Haze Regulations]." *Id.* at 42,836. In a later rulemaking, EPA approved in part and disapproved in part the remaining portions of Arizona's Section 308 SIP. *See* 78 Fed. Reg. 46,142 (July 30, 2013) ("Phase 2 Rule").⁸ After a notice-and-comment period, EPA promulgated the Final Rule challenged here, in December 2012. 77 Fed. Reg. at 72,512.

The Final Rule approved the State's emission limits for SO₂ and particulate matter at all the units but disapproved the State's emissions limits for NO_x at the seven coal-fired

⁷ The SIP also included BART determinations for SO₂ and particulate-matter, but they are not at issue in this case.

⁸ Petitioners petition for review of the Phase 2 Rule in *Phoenix Cement Co. v. EPA*, No. 13-73383, decided contemporaneously with this case in a memorandum disposition.

generating units at Apache, Cholla, and Coronado.⁹ *Id.* at 72,514. EPA explained that Arizona’s “overall approach” to the five-step BART analysis was “generally reasonable and consistent with the [Haze Regulations] and the BART Guidelines.” 77 Fed. Reg. at 42,840. But it determined that Arizona’s BART analysis suffered from several flaws, particularly with respect to costs and visibility improvement, that resulted in NO_x control determinations “inconsistent” with the Haze Regulations. 77 Fed. Reg. at 42,841–42; *see also* 77 Fed. Reg. at 72,516–21. EPA found that the State’s analyses with respect to SO₂ and particulate matter suffered from similar “deficiencies,” 77 Fed. Reg. at 72,517, but nonetheless approved Arizona’s determinations for these pollutants because the analytical flaws had no “substantive impact on [the State’s] selection of controls.” 77 Fed. Reg. at 42,841.

Explaining that the Consent Decree required EPA promptly to issue a FIP for any portion of the Arizona SIP it disapproved, the Final Rule simultaneously issued a FIP addressing the disapproved elements. 77 Fed. Reg. at 72,567–68. EPA conducted a “new five-factor BART analysis” of the three power plants to evaluate Arizona’s SIP and “to document the technical basis for proposing BART determinations in [EPA’s] FIP,” focusing in particular on analyzing the cost controls and visibility impacts associated with the different BART options. 77 Fed. Reg. at 42,852; *see generally* 77 Fed. Reg. at 42,852–65; 77 Fed. Reg. at 72,526–61.

⁹ EPA approved Arizona’s BART determination for the natural gas-fired Apache Unit 1. *See* 77 Fed. Reg. at 72,514.

Based on these analyses, EPA concluded that selective catalytic reduction (“SCR”) with low-NO_x burners and overfire air — the most stringent available retrofit control option — was the proper BART control for Coronado. *See* 77 Fed. Reg. at 42,864. EPA proposed NO_x emission limits much lower than those contained in Arizona’s SIP: 0.050 lb/mmBtu (calculated on a rolling 30-boiler-operating-day average) for Coronado Unit 1, and 0.080 lb/mmBtu for Coronado Unit 2.¹⁰ *Id.* at 42,865, tbl. 24. EPA also proposed compliance deadlines, as well as recordkeeping and reporting requirements, to enforce the FIP’s BART determinations.¹¹ *Id.* Finally, EPA sought public comment on several aspects of the proposed FIP. *Id.* at 42,835–36.

In the Final Rule, EPA revised certain elements of the proposed FIP in response to public comments and additional information. 77 Fed. Reg. at 72,514. Notably, EPA weakened the final NO_x emissions limits to “provide an extra margin of compliance” and changed its methodology to require plant-wide averaging. *Id.* at 72,514–15. As relevant here, EPA changed its proposed NO_x emission limits from 0.050 lb/mmBtu for Coronado Unit 1 and 0.080 lb/mmBtu for Coronado Unit 2 to an averaged limit of 0.065 lb/mmBtu across both units of the Coronado facility. *Id.* at 72,514–15, tbl. 1. The Final Rule also extended the compliance deadlines for installation and operation of the controls at the facilities. *See id.*

¹⁰ Arizona’s SIP had adopted NO_x emissions limits of 0.32 lb/mmBtu for both units of the Coronado facility.

¹¹ Arizona’s SIP was disapproved in part because it lacked such deadlines and requirements. *See* 77 Fed. Reg. at 72,514.

Arizona and SRP filed timely petitions for review of the Final Rule. After the cases were consolidated, we permitted National Parks Conservation Association and Sierra Club (the “Respondent-Intervenors”) to intervene in the consolidated action.

III. DISCUSSION

A. Standard of Review

Under the Administrative Procedure Act (“APA”), we uphold a final agency action unless it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2). To meet its regulatory obligations, an agency must “examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.” *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation marks and citation omitted). An agency’s action is “arbitrary and capricious” within the meaning of APA § 706(2) “if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *Id.* “When we review an agency action ‘involv[ing] primarily issues of fact,’ and where ‘analysis of the relevant documents requires a high level of technical expertise, we must defer to the informed discretion of the responsible federal agencies.’” *NPCA*, 788 F.3d at 1141 (quoting *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 377 (1989)).

The parties vigorously dispute how we should apply the APA arbitrary and capricious standard here. EPA maintains that in this case, as in most administrative law cases, the standard calls for judicial deference to the federal agency as to the decisions within its authority. Arizona (with the support of SRP) contends, to the contrary, that Section 169A's allocation of initial BART authority to the states requires that we defer to "*the state's* expert judgments, not to EPA's." As this brief summary indicates, the parties' disagreement concerning judicial review is grounded in competing visions of the Act's division of responsibility between the states and EPA. We therefore begin our analysis at the agency level, progressing thereafter to the question of our review standard.

The states possess "broad authority over BART determinations. . . . Congress intended the states to decide which sources impair visibility and what BART controls should apply to those sources." *Am. Corn Growers*, 291 F.3d at 8. In this connection, Section 169A of the Act gives states the initial responsibilities of determining which sources are subject to BART and of deciding, based on consideration of the five statutory factors, what BART controls must be installed and what the resulting emission limitations should be. *See* 42 U.S.C. § 7491(b)(2)(A), (g)(2).

But, as the Tenth Circuit has noted, the BART determination process "does not differ from other parts of the [Act]—states have the ability to create SIPs, but they are subject to EPA review." *Oklahoma*, 723 F.3d at 1209; *see also N. Dakota v. EPA*, 730 F.3d 750, 758 (8th Cir. 2013). EPA may only approve SIPs, or portions of SIPs, that "meet[] all the applicable requirements" of the Act. 42 U.S.C. § 7410(k)(3). Thus, while the Act "gives states discretion in

balancing the five BART factors, it also mandates that the state adhere to certain requirements when conducting a BART analysis.” *Oklahoma*, 723 F.3d at 1208. Consequently, when reviewing regional haze SIPs, EPA may not approve “a BART determination that is based upon an analysis that is neither reasoned nor moored to the [Act]’s provisions.” *N. Dakota*, 730 F.3d at 761. In short, EPA is not limited to the “ministerial” role of verifying whether a determination was made; it must “review the substantive content of the BART determination.” *Id.*

Alaska Department of Environmental Conservation v. EPA, 540 U.S. 461 (2004) (“*ADEC*”), does not support the opposite conclusion, Arizona’s contention to the contrary notwithstanding. *ADEC* involved a challenge to EPA’s authority to review states’ determinations of “best available control technology” (“BACT”) under the Prevention of Significant Deterioration program (“PSD”), 42 U.S.C. § 7470 et seq., a different part of the Act from the one mandating BART. *See ADEC*, 540 U.S. at 468. The PSD program is applicable to new construction of pollution emitting facilities. *See* 42 U.S.C. § 7475. As with the BART process at issue here, for the PSD program the state “exercises primary or initial responsibility for identifying BACT in line with the Act[.]” *ADEC*, 540 U.S. at 484.

ADEC rejected an argument made by the petitioners in that case similar to Arizona’s contention here—in that instance, that EPA’s enforcement role was limited to ensuring that the state-issued PSD permit contain a BACT requirement. Instead, *ADEC* accepted EPA’s interpretation of its authority—that EPA is authorized to review state BACT determinations to ensure they are “reasonably moored to the Act’s provisions.” *Id.* at 485, 488–89.

To be sure, *ADEC* explained, Alaska had “considerable leeway” in its BACT determinations, and EPA was required to accord appropriate deference to such determinations. *Id.* at 490. But EPA has the authority to verify “substantive compliance” with the Act’s BACT provisions “to guard against unreasonable designations.” *Id.* at 489–90. *ADEC* is thus fully consistent with our conclusion that EPA has substantive authority to assure that a state’s proposals comply with the Act, not simply the ministerial authority to assure that the state has made *some* determination of BART.

Arizona also invokes *American Corn Growers*, in which petitioners challenged aspects of EPA’s initial 1999 regional haze rule. That case does not support Arizona’s position regarding EPA’s SIP role either. The D.C. Circuit in *American Corn Growers* disapproved EPA’s initial rule in part because its requirements were “inconsistent with the Act’s provisions giving the states broad authority over BART determinations.” *Am. Corn Growers*, 291 F.3d at 8. But *American Corn Growers* in no way suggested that once a state has exercised its BART role by proposing a SIP, EPA lacks authority substantively to review the SIP for consistency with the Act.

From our determination that EPA has a *substantive* role in deciding whether state SIPs are compliant with the Act and its implementing regulations follows the conclusion that the ordinary APA “arbitrary and capricious” judicial review standard applies, with the requisite deference, to EPA’s determinations. Again, neither *American Corn Growers* nor *ADEC* supports a contrary conclusion. In particular, neither *ADEC* nor *American Corn Growers* bolsters Arizona’s contention that, upon judicial review, EPA bears the burden

of proving that the State's BART determinations are unreasonable.

ADEC did state that, for the purposes of deciding whether the state agency's BACT determination in that case was reasonable, "the production and persuasion burdens remain with EPA." 540 U.S. at 494. But *ADEC* was at that juncture addressing a concern wholly absent here. In *ADEC*, the Supreme Court held that the Act prevented EPA from "gain[ing] a proof-related tactical advantage" by imposing a stop-construction order rather than filing a civil action in state court. 540 U.S. at 493–94. In that connection, *ADEC* noted that "Congress nowhere suggested that the allocation of proof burdens would differ depending upon *which enforcement route* EPA selected." *Id.* at 493 (emphasis added). Petitioners in this case, however, challenge not an EPA enforcement action but the Final Rule disapproving in part Arizona's SIP submission. Such prospective administrative agency rulemaking is ordinarily reviewed under the APA's arbitrary and capricious standard; there is no basis for applying a different standard here.

In sum, Section 169A gives states substantial responsibility in determining appropriate BART controls. EPA may not disapprove reasonable state determinations that comply with the relevant statutory and regulatory requirements. *See Am. Corn Growers*, 291 F.3d at 6–8. That is, as *ADEC* put it, EPA may not "second guess" reasoned, legally compliant state decisions. 540 U.S. at 490. But Congress intended that EPA, not the states alone, ultimately ensure that state determinations as to regional haze comply with the Act, and so authorized EPA to disapprove state "analysis that is neither reasoned nor moored to the [Act's] provisions." *N. Dakota*, 730 F.3d at 761. Once the federal

agency has done so, our role as the reviewing court remains what it always is when substantively reviewing agency action under the APA—deciding, with appropriate deference to the federal agency, whether the agency’s action was “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2).

B. Partial Disapproval of the SIP’s BART Determinations

We now turn to Petitioners’ challenges to EPA’s partial disapproval of Arizona’s SIP as it applies to the Coronado BART determinations.

1. Arizona’s procedural claim

Before addressing Petitioners’ substantive arguments, we address Arizona’s procedural argument. Arizona maintains that, in acting only on the BART determinations when it promulgated the Final Rule, deferring action on the rest of the SIP, EPA “misconstrued its statutory authority and acted in an arbitrary fashion.” Specifically, Arizona contends that EPA cannot properly evaluate BART determinations separately from the broader reasonable progress analysis, because BART determinations are just one aspect of achieving Section 169A’s overall “reasonable progress” to the natural visibility goal. 42 U.S.C. § 7491(b)(2).

That is not so. There is no requirement that EPA approve or disapprove a SIP submittal in a single action. To the contrary, the Act expressly permits EPA to approve or disapprove a SIP “in part.” 42 U.S.C. § 7410(c)(1), (k)(3); *see also Ass’n of Irrigated Residents v. EPA*, 423 F.3d 989, 997 (9th Cir. 2005).

The EPA rule partially disapproving a regional haze SIP which was recently upheld by *Oklahoma*, 723 F.3d at 1206, for example, “[t]ook] no action on whether Oklahoma has satisfied the reasonable progress requirements.” 76 Fed. Reg. 81,728, 81,730 (Dec. 28, 2011). Under the Haze Regulations, SIPs must contain reasonable progress goals, 40 C.F.R. § 51.308(d)(1), *as well as* source-specific BART determinations, *id.* § 51.308(e)(1).¹² Of course, the implementation of the BART determinations will ultimately contribute toward meeting the reasonable progress goals. But the Act sets out standards for BART that are freestanding, source-by-source, and not dependent on the long term visibility goals identified. EPA did not act arbitrarily by considering Arizona’s BART determinations separately from the State’s reasonable progress analysis.

2. *Arizona’s substantive claims*

Turning to the substance of the Final Rule: EPA found that the SIP’s “overall approach” was “generally reasonable and consistent” with the Haze Regulations and the Guidelines.¹³ 77 Fed. Reg. at 42,840. But it concluded that the State’s BART determinations were deficient in three particular respects. First, Arizona’s control cost calculations

¹² As Arizona argues, in “some circumstances” BART controls may not be “necessary to make reasonable progress.” But that is so when states elect to implement an “emissions trading program or other alternative measure,” that result in “*greater reasonable progress*” than BART. *Id.* § 51.308(e)(2) (emphasis added). Here, the State did not submit an alternative measure under § 51.308(e)(2), choosing instead to conduct a source-specific BART analysis.

¹³ Petitioners do not challenge the Haze Regulations or the Guidelines, only their implementation in the Final Rule here at issue.

were not performed in accordance with the Guidelines and were otherwise unreasonable. *See id.* at 42,841; 77 Fed. Reg. at 72,516–18, 72,566. Second, Arizona did not properly evaluate the visibility improvements to all Class I areas. *See* 77 Fed. Reg. at 42,841–42; 77 Fed. Reg. at 72,519, 72,566. And third, Arizona inadequately explained its consideration of the BART factors. *See* 77 Fed. Reg. at 42,841, 42,846; 77 Fed. Reg. at 72,517, 72,566. Because of these deficiencies, EPA partially disapproved Arizona’s BART determinations, including those pertaining to Coronado’s NO_x emission controls.

Arizona and SRP contend that each of EPA’s conclusions is legally flawed and unsupported by the record. Consequently, they contend, the agency’s partial disapproval of the SIP was arbitrary and capricious. We disagree. EPA’s conclusions concerning the State’s BART analysis and determinations were well explicated, carefully grounded in the administrative record, and analytically reasonable, and so properly support its disapproval of Arizona’s NO_x BART determinations for Coronado.

(i) The SIP’s Cost Analysis

As one of the BART factors, states must consider the “costs of compliance.” 42 U.S.C. § 7491(g)(2); 40 C.F.R. § 51.308(e)(1)(ii)(A). “States have flexibility in how they calculate costs.” Haze Regulations, 70 Fed. Reg. at 39,127. A state’s cost calculations are critical to determining a BART control’s “cost effectiveness,” where “‘effectiveness’ is measured in terms of tons of pollutant emissions removed, and ‘cost’ is measured in terms of annualized control costs.” *Id.* at 39,167.

After identifying control alternatives and achievable emissions performance levels, states are directed to “develop estimates of capital and annual costs.” *Id.* at 39,166. “The basis for equipment cost estimates also should be documented, either with data supplied by an equipment vendor . . . or by a referenced source (such as the [Office of Air Quality Planning and Standards] Control Cost Manual . . .).” *Id.*

The Guidelines instruct that the Cost Manual “addresses most control technologies in sufficient detail for a BART analysis,” and that “cost estimates should be based on the [Cost Manual] where possible” to “maintain and improve consistency.” *Id.* States are allowed by the Guidelines to include “additional information” — such as “any information supplied by vendors that affects your assumptions regarding purchased equipment costs, equipment life, [or] replacement of major components” — in their cost calculations, but require them to provide documentation for any “element of the calculation that differs from the . . . Cost Manual.” *Id.* n.15. Finally, the Guidelines indicate that “[t]he cost analysis should also take into account any site-specific design or other conditions . . . that affect the cost of a particular BART” option. Guidelines at 39,166.

In its proposed rule, EPA found “certain aspects” of Arizona’s cost calculations “inconsistent” with the Guidelines and Cost Manual and “disagree[d] with the manner in which [Arizona] interpreted the cost-related information included in its [] SIP.” 77 Fed. Reg. at 42,841. With regard to Coronado, specifically, EPA noted in its proposed rule that SRP “provided summaries of total control costs, such as total annual operating and maintenance costs and total annualized capital cost, but did not provide cost information at a level of

detail that included line item costs.” *Id.* at 42,850. This omission meant that SRP did not provide Arizona “with control cost calculations at a level of detail that allowed for a comprehensive review.” *Id.* at 42,851. As a result, EPA explained, it “[did] not believe that [Arizona] was able to evaluate whether SRP’s control costs were reasonable.” *Id.* Arizona’s BART analysis was therefore inadequate because it “did not properly consider the costs of compliance for each control option.” *Id.*

We conclude that EPA’s disapproval of the cost analysis underlying Arizona’s BART determination for Coronado on that basis was not “arbitrary, capricious, [or] an abuse of discretion.” 5 U.S.C. § 706(2)(A). Arizona simply relied on the cost data provided by SRP, despite the fact that the data failed to include sufficient detail for the State meaningfully to analyze the reasonableness of the costs of various control alternatives. States are required by statute to consider “costs of compliance” in making BART determinations. 42 U.S.C. § 7491(g)(2). When they are not presented with enough data to do so, EPA may reasonably conclude that their analysis is

inadequate.¹⁴ EPA’s decision to do so was not arbitrary or capricious.

(ii) *The SIP’s Visibility Analysis*

As part of its BART analysis, a state must analyze “the degree of improvement in visibility which may reasonably be anticipated to result from the use” of alternative control technologies. 40 C.F.R. § 51.308(e)(1)(ii)(A). EPA found no problems with the “technical adequacy of [Arizona’s visibility] modeling.” 77 Fed. Reg. at 72,519. Rather, EPA found Arizona’s interpretation of the visibility modeling for all three plants “problematic.” *Id.* The problems, EPA contends, resulted in Arizona understating the visibility benefits associated with installing SCR at Coronado. We conclude that EPA’s assessment of Arizona’s visibility analysis considered the appropriate factors rationally, and so defer to its conclusions. *See Motor Vehicle Mfrs.*, 463 U.S. at 43.

¹⁴ EPA also disapproved the cost analysis for failing to use the “overnight method” required by the Cost Manual. The “overnight” method “treats the costs of a project as if the project were completed ‘overnight,’ with no construction period and no interest accrual.” 77 Fed. Reg. at 72,530. “Since assets under construction do not provide service to current customers,” utilities for ratemaking purposes use an alternative, “levelized” methodology, to “capitalize[] the interest and return on equity that would accrue over the construction period and adds them to the rate base when construction is completed and the assets are used.” *Id.*

Because EPA had a sufficient alternative basis for disapproving the Coronado cost analysis, we do not here decide whether it could require Arizona to employ the overnight method. We discuss EPA’s use of the overnight method in its FIP *infra*, at 39–40.

For Coronado, Arizona used a “visibility index” averaging the visibility benefits at the closest nine Class I areas, but did not evaluate such benefits separately at the *most* impacted Class I area, the Gila Wilderness Area. 77 Fed. Reg. at 72,519; *see also* 77 Fed. Reg. at 42,850–51. EPA’s regulations “do not prescribe a particular approach to calculating or considering visibility benefits across multiple Class I areas,” 77 Fed. Reg. at 42,841; states have the “flexibility to assess visibility improvements due to BART controls by one or more methods,” Guidelines at 39,170. The indexing approach therefore “could be acceptable in itself as part of assessing multiple area impacts and improvements.” 77 Fed. Reg. 72,519. But, EPA concluded, “without *any* consideration of particular area improvements, the averaging process causes especially large benefits at some individual areas to be diluted or lost, effectively discounting some of the more important effects of the controls.” *Id.* (emphasis added).

Moreover, regardless of the methodology used, EPA maintains, Arizona’s visibility analysis in its SIP was unreasonable because it used “two contrasting, yet equally incomplete, approaches to assessing visibility improvements.” Arizona used a visibility index average to analyze visibility benefits at Coronado, but its analyses for Apache and Cholla considered visibility improvements “only at the single Class I area with the greatest modeled impact from a facility,” rather than at all impacted Class I areas. 77 Fed. Reg. at 72,519. That is, the cumulative averaging approach taken by Arizona in its analysis for Coronado “is counter to [Arizona’s] emphasis elsewhere in the SIP on the importance of considering the visibility improvement at the single area having the largest impact from a given facility.” *Id.* The upshot is the appearance that the State selectively

chose for each plant a methodology that minimized the visibility improvement achieved by the more stringent emission controls at each location.

Arizona made no attempt in its SIP, nor in its briefing in this appeal, to counter this appearance by explaining why it chose differing approaches to visibility analysis for different facilities. SRP may be correct that “[t]he Guidelines allow states to use either or both approaches.” But, as described above, a state must include in its SIP “an *explanation* of the CAA factors that led [the State] to choose that option over other control levels.” Guidelines at 39,170–71 (emphasis added). Adopting inconsistent — indeed, contradictory — approaches without providing any explanation for that decision frustrated EPA’s ability to “review the substantive content of the BART determination.” *N. Dakota*, 730 F.3d at 761.

Arizona also contends that the outcome of its BART determinations would not have changed even if it had adopted the approach to visibility analysis EPA prescribed. The visibility improvements resulting from installing SCR, the State maintains, would in any event be “imperceptible” to the human eye.

EPA expressly, and reasonably, rejected this argument when it promulgated the Haze Regulations and Guidelines in 2005:

Even though the visibility improvement from an individual source may not be perceptible, it should still be considered in setting BART because the contribution to haze may be significant relative to other source

contributions in the Class I area. Thus, we disagree that the degree of improvement should be contingent upon perceptibility. Failing to consider less-than-perceptible contributions to visibility impairment would ignore the CAA's intent to have BART requirements apply to sources that contribute to, as well as cause, such impairment.

70 Fed. Reg. at 39,129.

In sum, EPA rationally determined that Arizona's BART visibility analysis for Coronado was unsupported by explanation and inconsistent with the CAA and its regulations. We defer to its conclusions.

(iii) *The SIP's Choice of BART*

EPA's Guidelines require states to support their BART determinations with "documentation for all required analyses," including explanations of their BART five-factor analysis. 40 C.F.R. § 51.308(e)(1). Further, the Guidelines indicate that states "should provide a *justification* for adopting the technology . . . select[ed] as the 'best' level of control, including an *explanation* of the [Act's] factors that led [the State] to choose that option over other control levels." Guidelines at 39,170–71 (emphasis added). A state need not perform this analysis if a source already has, or has committed to installing, the most stringent controls available. *Id.* at 39,165. Otherwise, as EPA explained in proposing the Rule here at issue, "[s]tates are free to determine the weight and significance assigned to each factor, but must consider all five factors and provide a *reasoned explanation* for adopting [BART]." 77 Fed. Reg. at 42,838 (emphasis added).

In the Final Rule, EPA concluded that, although Arizona “presented information relevant to each of the BART factors” and “expressly stated” that it had considered those factors, it did not “provide[] an explanation regarding how this information was used to develop its BART determinations.” 77 Fed. Reg. at 72,517; *see also id.* at 72,566 (“[Arizona] has not demonstrated that it actually took into consideration the BART factors in making its determinations[.] . . . [I]t gave no explanation or rationale for how it reached a determination based on that information.”). More specifically, EPA found that Arizona did not discuss how the results of the visibility index were weighed against the other BART factors for Coronado. *Id.* at 72,518; 77 Fed. Reg. at 42,851. Further, EPA noted that while the SIP includes cost data, it “provides no explanation regarding how, or even if, th[e] cost information was used in arriving at its NO_x BART determinations.” 77 Fed. Reg. at 72,517. Indeed, “[i]n the case of . . . Coronado, the . . . SIP does not analyze th[e] cost information in even a qualitative manner.” *Id.*

A review of Arizona’s BART Technical Support Document supports EPA’s analyses with regard to Coronado. Arizona’s ultimate determination was that, “[a]fter reviewing the BART analysis provided by the company, and based upon the information above . . . BART control at [Coronado] for NO_x is . . . Low NO_x burners with OFA” with an emission rate of 0.32 lbs/mmBtu. Before announcing that decision, Arizona provided several charts of data concerning the various controls’ cost-effectiveness and visibility impacts. But, having done so, it provided *no* reasoning or rationale to justify its ultimate BART selection. There was simply no attempt made to explain why the State chose one control technology over another, or how it evaluated the various BART factors (i.e., cost-effectiveness, visibility

improvement, energy and non-air quality environmental impacts, existing pollution control technology in use, and the remaining useful life of the source), either individually or in combination.

Indeed, Arizona does not meaningfully contest EPA's adverse characterization of its BART analysis. Rather, it contends that "no great explanation is required to understand the State's decision not to spend hundreds of millions of dollars of its citizens' money for an imperceptible improvement in visibility." Yet, under the Act and its implementing regulations, states are required in SIPs to explain the choice of BART, taking into account not only cost and visibility improvement, but also the three other BART factors. *See* 40 C.F.R. § 51.308(e)(1)(ii)(A); Guidelines at 39,170–71.

We recently invalidated a FIP in part because EPA's conclusory cost-benefit analysis "fail[ed] to reveal to a reader how EPA determined that the cost of controls were not justified." *NPCA*, 788 F.3d at 1145. The same failure here, albeit by a state in its SIP, fares no better. Although the Act affords states significant discretion in determining the appropriate levels of BART controls, EPA must review whether a state's determinations comply with the statute and its rules. *See N. Dakota*, 730 F.3d at 761; *Oklahoma*, 723 F.3d at 1209. Just as we could not in *NPCA* review EPA's cost/benefit analysis absent any coherent agency analysis, EPA reasonably determined that it could not meaningfully review Arizona's parallel determination, because the State did not provide an adequate explanation of its underlying analysis, if any. *Cf.* 40 C.F.R. § 51.308(e)(1)(ii)(A); Guidelines at 39,170–71.

In sum, EPA's conclusion that Arizona did not adequately explain its NO_x BART determinations provides reasonable support for its partial disapproval of Arizona's SIP. We therefore defer to EPA's determination.

(iv) *Conclusion*

EPA reasonably concluded that Arizona's cost and visibility impact analyses for Coronado suffered from significant analytical defects and that the SIP did not provide a reasoned explanation of the bases for the ultimate BART determination for Coronado. Although Section 169A affords the states substantial authority to determine BART controls, the combination of these defects provided EPA reasonable grounds upon which to disapprove the Arizona's BART determinations as to NO_x emissions limits at Coronado. Its partial disapproval of the SIP in this respect was not arbitrary or capricious.

C. EPA's Promulgation of the FIP

To remedy the deficiencies it identified in its partial disapproval of Arizona's SIP, EPA in the same Final Rule promulgated a FIP. As relevant here, EPA concluded that selective catalytic reduction with low-NO_x burners and overfire air, "the most stringent available control option" for NO_x emissions, was BART for Coronado. 77 Fed. Reg. at 42,864. It thus proposed NO_x emission limits of 0.05 lb/mmBtu, based on a rolling 30-boiler-operating day average,¹⁵ for Coronado. *Id.* at 42,865. After receiving

¹⁵ "Boiler operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the steam-generating unit. It is not necessary for fuel to be

comments on its proposed rule, EPA's Final Rule imposed a FIP containing revised NO_x emission limits of 0.065 lb/mmBtu, measured as an average of the two Coronado generating units. *See* 77 Fed. Reg. at 72,514–15. This final emission limit is, of course, very significantly more stringent than the 0.32 lb/mmBtu NO_x limit proposed by Arizona in its SIP. As required by the Guidelines, EPA explained its general analytical approach and BART determinations at substantial length in the Final Rule. *See id.* at 72,526–35.

SRP presses a number of substantive challenges to the FIP's emission limit, as well as to EPA's analysis underlying that determination. Arizona, on the other hand, challenges EPA's decision to promulgate a FIP in the same rule in which it disapproved in part Arizona's SIP. We address these challenges in turn.

1. The FIP's BART Determinations

Under Section 169A and the Haze Regulations, EPA must perform the same BART analysis when promulgating a regional haze FIP as that performed by states in developing SIPs. *See* 42 U.S.C. § 7491(b)(2)(A), (g)(2); *see also* 40 C.F.R. § 51.308(e)(1)(ii)(A)–(B). Challenges to the FIP are reviewed “under the same arbitrary and capricious standard . . . used to evaluate the EPA's rejection of the SIP.” *Oklahoma*, 723 F.3d at 1215. But this review requires a “slightly different perspective,” as we “evaluat[e] the EPA's *own choices* under the guidelines, as opposed to evaluating its

combusted the entire 24-hour period.” 40 C.F.R. § 60.41. At the end of each boiler operating day, emissions are measured and a new 30-day rolling average is calculated. *See* 40 C.F.R. § 60.48Da(b).

choice to reject [Arizona’s] SIP under the guidelines.” *Id.* (emphasis added).

SRP contends that EPA’s cost and visibility analyses contained in its FIP were arbitrary and capricious. It also maintains that, for a number of reasons, the FIP’s NO_x emission limits are neither achievable nor reasonable. Consequently, it argues, the FIP’s BART determinations for Coronado were, on the whole, arbitrary and capricious. For the reasons set forth below, we in the main do not agree, but we leave one issue open because EPA is reconsidering it.

a. EPA’s Visibility Analysis

SRP first disputes EPA’s “cumulative” approach. EPA estimated the visibility improvements that would occur at each of the Class I areas potentially impacted by Coronado’s emissions and then aggregated those improvements. SRP contends this analysis resulted in “a large deciview number” that does not represent the actual perception of visibility conditions at any particular Class I area. SRP’s challenge to EPA’s visibility improvement analysis suffers from two substantial defects.

First, EPA considered the “cumulative visibility improvement” resulting from various control technologies “[a]s a supplement” to considering deciview improvements at individual Class I areas. For Coronado, specifically, EPA explained that modeling showed that SCR control technology would result in visibility benefits at each of eleven Class I areas—including the Gila Wilderness Area, which EPA faulted Arizona for failing to consider—*as well as* on a cumulative basis. *See* 77 Fed. Reg. at 42,863 tbl.23. In response to Petitioners’ comments critiquing EPA’s

cumulative approach, EPA explained in the Final Rule that “[t]he approach is simply one way of assessing improvements at multiple areas, for consideration along with other visibility metrics.” 77 Fed. Reg. at 72,532. SRP’s claim that EPA “focused on this [cumulative] methodology almost exclusively” is simply not supported by the record.

Second, SRP’s insistence on “human perception” as the determinative “cornerstone” for the BART determinations for each individual source is overstated. As discussed above, when promulgating the BART Guidelines, EPA explicitly disagreed “that the degree of improvement should be contingent upon perceptibility” when determining BART for an individual source. 70 Fed. Reg. at 39,129.

EPA’s Final Rule provided a fully adequate explanation of its application of the deciview concept in the FIP. Again, one deciview is the minimum visibility difference people can perceive. *See* Guidelines at 39,120 n.32. The Guidelines suggest that states use a minimum threshold of 0.5 deciviews to determine whether a source is *subject* to BART controls. EPA explained in its Final Rule, however, that “[s]maller improvements from controls should be considered in BART *determinations*, since they can be beneficial in considering effects from controls on multiple sources.” 77 Fed. Reg. at 72,533 (emphasis added).

In conclusion, EPA’s visibility improvement assessment was consistent with the statute and regulatory requirements, and supported by the record.

b. EPA's Cost Analysis

SRP also challenges EPA's cost analysis, arguing that it "diverged" from the Guidelines and was "inadequate" to support its BART determinations for NO_x emissions. Additionally, SRP argues that EPA's cost assessment was flawed "because [EPA] insisted on rigid adherence to the [Cost Manual] irrespective of site-specific costs."

EPA explains that it used the "air pollution control cost development" component of the Integrated Planning Model ("IPM") to develop its cost estimates. *See* 77 Fed. Reg. at 72,530. IPM, a model of the United States electric power sector, "relies upon a very large number of data inputs and provides forecasts" of costs and other variables relevant to decisionmaking in that sector. *Id.* SRP maintains that by using IPM cost estimates, EPA ignored the Coronado facility's "site-specific characteristics," and so understated the actual costs of compliance for installing controls at Coronado.

In the Final Rule, however, EPA explained that it did not rely on IPM as a whole, but rather on "one component of IPM, specifically, the component that develops the costs of air pollution control technologies." *Id.* As EPA explained, that cost development methodology was not "generic" or "generalized." *Id.* Rather, it was grounded in databases of actual SCR projects from 2004, 2006, and 2009. *Id.* At the same time, EPA recognized that "a costly engineering evaluation that included site visits would potentially produce a more refined cost estimate that could be considered more site-specific than our own." *Id.*

In addition, in response to Petitioners' public comments contending that EPA failed to consider site-specific information, EPA conducted supplemental cost analyses that relied upon "cost estimates provided by SRP." *See id.* at 72,558–60. Based on this supplemental cost analysis, EPA concluded that "the cost-effectiveness values of SCR . . . [are] not . . . cost-prohibitive" for Coronado. *Id.* at 72,560.

Not satisfied, SRP contends that in its supplemental analysis, "EPA excluded costs it deemed inconsistent with the [Cost Manual]" such as Allowance for Funds Utilized During Construction ("AFUDC").¹⁶ This argument restates Petitioners' objections to EPA's reliance on the overnight costing methodology when it partially disapproved Arizona's SIP. *See supra* note 14. EPA's use of such a methodology in *its own FIP's* cost analysis is, without doubt, reasonable. *See* 77 Fed. Reg. at 72,518.

In rejecting Arizona's SIP, EPA explained that the use of the overnight method was "crucial to [its] ability to assess the reasonableness of the costs of compliance." *Id.* The agency went on:

A proper evaluation of cost-effectiveness allows for a reasoned comparison not only of different control options for a given facility, but also of the relative costs of controls for similar facilities. If the cost-effectiveness of a control technology for a particular facility is outside the range for other similar facilities,

¹⁶ "AFUDC primarily represents a tool for utilities to capture their cost of borrowing and return on equity during construction periods." 77 Fed. Reg. at 72,531.

the control technology may be rejected as not cost-effective. . . . Without an ‘apples-to-apples’ comparison of costs, it is impossible to draw rational conclusions about the reasonableness of the costs of compliance for particular control options. Use of the [Cost Manual] methodology is intended to allow a fair comparison of pollution control costs between similar applications for regulatory purposes.

Id. EPA concluded that “it is reasonable for us to insist that the [Cost Manual] methodology be observed in the cost estimate process.” *Id.* Accordingly, it rejected comments that items like AFUDC should have been incorporated into its cost analysis, as they were “inconsistent with [the Cost Manual] methodology.” *Id.* at 72,531.

EPA’s analysis is reasonable. The purpose of the cost analysis required as part of a BART determination is to foster comparison of the cost of the visibility improvements enabled by various control technologies. As EPA’s comments indicate, cross-facility comparisons of similar sources with regard to the cost-effectiveness of a given control option aid in determining cost-effectiveness at a specific source. Control options are likely to impact similar sources similarly; comparisons assure that the cost and benefit figures used for a particular site are realistic, rather than inflated in one direction or another. Consideration of AFUDC would not further this inquiry, as AFUDC is ultimately reflective of the implementing entity’s financial and logistical situations, grounded in past decisions and in the company’s financial policies and attitudes, not of the hard costs of the equipment and construction, which should be consistent across sites.

While AFUDC and similar concepts are relevant for sales and ratemaking, including them would undermine the sort of “apples-to-apples” comparison that EPA asserts is necessary as part—but only part—of assessing the control options.

This approach is consonant with the Guidelines, which specifically advise that “reasonable range[s]” for cost effectiveness are those that are “consistent with the range of cost effectiveness values used in other similar permit decisions over a period of time.” Guidelines at 39,168; *see also Oklahoma*, 723 F.3d at 1213 (“The guidelines say that states should follow the manual’s methodology so that projects can be more easily compared.”). Moreover, adopting a costing methodology which focuses on achieving consistency and facilitating comparisons aligns with the CAA itself, which empowers EPA to promulgate *national* regulations concerning BART determinations. *See* 42 U.S.C. § 7491(a)(4), (b)(1).

Accordingly, we reject SRP’s argument that the FIP’s underlying cost analysis was arbitrary and capricious.

c. Achievability of the FIP’s NO_x emission limits for Coronado

The Haze Regulations provide that the BART determination “must be based on an analysis of the best system of continuous emission control technology available and associated emission reductions *achievable* for each BART-eligible source that is subject to BART.” 40 C.F.R. § 51.308(e)(1)(ii)(A) (emphasis added). The reviewing authority should “take into account the most stringent emission control level that the technology is capable of achieving,” by considering “recent regulatory decisions and

performance data (e.g., manufacturer’s data, engineering estimates and the experience of other sources).” Guidelines at 39,166.

SRP argues that the FIP’s NO_x emission limit for Coronado — 0.065 lb/mmBtu averaged across the facility — is not achievable. More specifically, it argues that (1) the emission limits are technically infeasible; and (2) EPA did not take into account the Consent Decree binding Coronado Unit 2 when formulating the emission limits.

Both of these arguments will be rendered moot if EPA’s recent action proposing to revise the FIP’s NO_x emission limit for Coronado results in a final revised FIP consistent with the proposal. *See* 80 Fed. Reg. 17,010 (March 31, 2015).¹⁷ The proposed revision would replace the facility-wide compliance method with “a unit-specific compliance method for determining compliance with . . . BART [] emission limits for nitrogen oxides,” and would establish “unit-specific limit[s]” of 0.065 lb/mmBtu for Coronado Unit 1 and 0.080 lb/mmBtu for Coronado Unit 2. *Id.*

SRP’s technical feasibility argument was largely based on the assertion that a 0.050 lb/mmBtu emissions limit — which SRP contended Coronado Unit 1 would have to satisfy — was “infeasible” for SCR retrofits to coal-fired electric generating units. Even though EPA based its BART determinations for Coronado on modeling showing that SCR controls could achieve a 0.050 lb/mmBtu NO_x emission rate with an 80%–90% control efficiency, *see* 77 Fed. Reg. at 42,853, and has imposed a NO_x emission limit in the 0.050

¹⁷ EPA has recently informed us that it expects to issue the final revised FIP by March 2016.

lb/mmBtu range in other, similar rulemakings, *see* 77 Fed. Reg. at 72,544 tbl.7, the proposed revised FIP's limits for Coronado Unit 1 are now 0.065 lb/mmBtu.¹⁸ Likewise, although SRP initially argued that the FIP's emission limits were inconsistent with the limits prescribed by a pre-existing Consent Decree as to Coronado Unit 2, EPA's proposed FIP revision establishes the *same* emissions limit as that prescribed by the Consent Decree: 0.080 lb/mmBtu. *See* 80 Fed. Reg. at 17,016–18. Consequently, these arguments, whatever merit they may have had as to the original FIP, will not carry force if the proposed revised FIP is adopted.

Additionally, SRP argues that the FIP's emissions limits are in conflict with EPA's own "presumptive" limits. The BART Guidelines provide a list of "presumptive NO_x limits," based on boiler and coal type, for certain coal-fired generating units operating without post-combustion controls. Guidelines at 39,171. Under the Guidelines, the reviewing authority "should require such [facilities] to meet the [presumptive] NO_x emission limits, unless [it] determine[s] that an alternative control level is justified based on consideration of the statutory factors." *Id.* The presumptive NO_x limits for Coronado are 0.32 lb/mmBtu for bituminous coal and 0.23 lb/mmBtu for sub-bituminous coal. *Id.* tbl.1. Arizona's SIP proposed a NO_x emission limit for Coronado within the presumptive limit range, while the FIP imposes a far lower facility-wide limit. SRP argues that EPA, unlike Arizona, did not consider the presumptive limits, and therefore violated the Guidelines.

¹⁸ A 0.065 lb/mmBtu emissions limit may also be, in SRP's view, technically infeasible, and SRP is entitled to petition for review of EPA's action finalizing the FIP revision when it is issued. *See* 42 U.S.C. § 7607(b).

As the Final Rule explains, EPA did consider the presumptive limits but found there is “no single presumptive NO_x limit that applies to any of these units,” as each of the facilities “historically burned both bituminous and sub-bituminous coal.” 77 Fed. Reg. at 72,529. Accordingly, EPA instead “considered the technological basis for presumptive NO_x BART limits . . . as part of the five-factor analysis [it] performed for each facility.” *Id.*

In any event, SRP’s argument that the “law requires [the presumptive] limits to be taken into account in any BART determination” is belied by the Guidelines. The presumptive emission limits are “rebuttable” and “do[] not preclude states or EPA from setting limits that differ from those presumptions.” 77 Fed. Reg. at 72,529. Instead, the Guidelines expressly allow for an alternative control level to be formulated based on the statutory factors, provided that the alternative limits are based on a reasoned BART analysis. 70 Fed. Reg. at 39,171. Moreover, the presumptive emission limits are presumed to be *cost-effective*, not presumed to be BART in every case. *See* 77 Fed. Reg. at 51,620, 51,633 (Aug. 24, 2012); 77 Fed. Reg. 14,604, 14,665 (Mar. 12, 2012).

In sum, EPA acted reasonably in departing from Guidelines’ rebuttable presumptive limits. But, because EPA has not yet completed its proposed revised FIP, we decline to rule on the reasonableness of its emissions limits, as they are likely to be altered. This aspect of these proceedings is therefore stayed until EPA concludes the administrative process and issues its final revised FIP.

2. Simultaneous Disapproval of a SIP and Promulgation of a FIP

Apart from its substantive challenges to the FIP, Arizona contends that EPA procedurally erred in promulgating the FIP in the same rule as its partial disapproval of the SIP. That is not so.

Under the Act, EPA shall promulgate a FIP “*at any time* within 2 years” after EPA disapproves a SIP in whole or in part or finds that a state has not made a required submission. 42 U.S.C. § 7410(c) (emphasis added). A state may forestall the promulgation of a FIP if it “corrects the deficiency, and [EPA] approves the plan or plan revision, before [EPA] promulgates such [FIP].” *Id.* Furthermore, a state may submit a SIP revision to EPA at any time, and EPA must act on it within twelve months of submission. *Id.* § 7410(k).

The Final Rule’s partial disapproval of Arizona’s BART determinations constituted a trigger under the Act for promulgating a FIP replacing those elements. The Act expressly authorizes EPA to promulgate a FIP “*at any time*” within two years of disapproving a SIP. “At any time,” of course, includes simultaneously with the SIP’s disapproval. *See Oklahoma*, 723 F.3d at 1223.

Arizona ultimately recognizes that EPA had the authority to promulgate the FIP simultaneously with its partial disapproval, but maintains that EPA did not realize that it had *discretion* to provide Arizona up to two years to correct any deficiencies. EPA, Arizona posits, harbored the erroneous belief that its obligations under the Consent Decree required it to act when it did.

Some procedural background is required to understand the thrust of Arizona’s argument. After EPA did not promulgate FIPs within two years of its January 2009 finding that many states, including Arizona, had not submitted required SIPs, it entered into a Consent Decree requiring the federal agency to approve a SIP or promulgate a FIP by November 15, 2012. *See supra*, p. 13–14. In the Final Rule, EPA stated that the Consent Decree “required [it] to issue a FIP for any portion of the Arizona SIP that we cannot approve.” 77 Fed. Reg. at 72,569. EPA further explained that “while . . . in the absence of an expired statutory duty and a court-ordered deadline to issue a FIP, it would be preferable for us to give Arizona additional time to revise its Regional Haze SIP prior to promulgation of a FIP, we simply do not have this option under these circumstances.” *Id.* at 72,571.

Arizona contends that the January 2009 finding constituted only a determination that Arizona failed to submit a *Section 309* SIP, and that the correct remedy for Arizona’s asserted deficiency “was to impose a FIP supplying the missing Section 309 elements, not to impose a FIP under Section 308, as it did here.” But, as we explained earlier, *see supra*, p. 11–12, Section 309 provides an *alternative* mechanism for western states to comply with the CAA’s visibility requirements for certain Class I areas. Such states must include Section 308 components for other Class I areas, and they remain subject to Section 308’s requirements if they do not submit a Section 309 SIP. *See* 40 C.F.R. § 51.309(a), (e), (g)(2). Arizona expressly acknowledged that its Section 309 SIP submission lacked certain requirements under sections 51.309(d)(4)(viii) and (g). Because the State did not submit an adequate Section 309 SIP, it did not submit an adequate *regional haze* SIP. EPA was required to promulgate

a FIP to fill in the gap. *See* 42 U.S.C. §§ 7410(c)(1), 7491(b)(2)(A).

More practically, it is unlikely that a different outcome would have resulted if EPA had provided Arizona with additional time to correct its Section 308 SIP. EPA had expressed a number of its concerns to Arizona after reviewing its proposed SIP in late 2010. EPA also identified the basis for its proposed partial disapproval in its July 2012 proposed rule. Arizona made no effort to correct its SIP in light of these comments. There is no reason to think it would have done so after the Final Rule disapproving the SIP issued either.

In sum, EPA properly promulgated its FIP in the same rule as its partial disapproval of the SIP. Further, as EPA stated in the Final Rule, the State remains free to, at any time, “submit a revised SIP to replace the FIP.” 77 Fed. Reg. at 72,571.

IV. CONCLUSION

For the reasons set forth above, we deny Arizona’s and SRP’s petitions for review of EPA’s Final Rule as to EPA’s disapproval of Arizona’s SIP. Our ultimate review of EPA’s FIP, however, must await EPA’s final action on its proposal to revise the FIP in specific respects. As noted, EPA has stated that it expects to finalize the revised FIP by March 2016. Accordingly we stay these proceedings as to evaluation of the FIP’s technical feasibility until the administrative process is complete.

PETITIONS DENIED.

GLOSSARY OF ACRONYMS

AFUDC – Allowance for Funds Utilized During Construction

APA – Administrative Procedure Act

CAA – Clean Air Act

BACT – Best Available Control Technology

BART – Best Available Retrofit Technology

EPA – Environmental Protection Agency

FIP – Federal Implementation Plan

IPM – Integrated Planning Model

LNB – Low NO_x Burner

NO_x – Nitrogen Oxides

OAQPS – Office of Air Quality Planning and Standards

OFA – Overfire Air

PSD – Prevention of Significant Deterioration

SCR – Selective Catalytic Reduction

SIP – State Implementation Plan

SO₂ – Sulfur Dioxide

SRP – Salt River Project Agricultural Improvement and Power District