United States Court of Appeals for the Fifth Circuit

United States Court of Appeals
Fifth Circuit
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Lyle W. Cayce
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No. 23-60069

STATE OF TEXAS; TEXAS COMMISSION ON ENVIRONMENTAL QUALITY; LUMINANT GENERATION COMPANY, L.L.C.; COLETO CREEK POWER, L.L.C.; ENNIS POWER COMPANY, L.L.C.; HAYS ENERGY, L.L.C.; MIDLOTHIAN ENERGY, L.L.C.; OAK GROVE MANAGEMENT COMPANY, L.L.C.; WISE COUNTY POWER COMPANY, L.L.C.; ASSOCIATION OF ELECTRIC COMPANIES OF TEXAS; BCCA APPEAL GROUP; TEXAS CHEMICAL COUNCIL; TEXAS OIL & GAS ASSOCIATION; PUBLIC UTILITY COMMISSION OF TEXAS; RAILROAD COMMISSION OF TEXAS; STATE OF MISSISSIPPI; MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY; MISSISSIPPI POWER COMPANY; STATE OF LOUISIANA; LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY; ENTERGY LOUISIANA, L.L.C.; LOUISIANA CHEMICAL ASSOCIATION; MID-CONTINENT OIL AND GAS ASSOCIATION; LOUISIANA ELECTRIC UTILITY ENVIRONMENTAL GROUP, L.L.C.; TEXAS LEHIGH CEMENT COMPANY, LP,

Petitioners,

versus

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY; LEE ZELDIN, *Administrator, United States Environmental Protection Agency*,

Respondents.

Petition for Review of a Final Rule of the
Environmental Protection Agency
88 Fed. Reg. 9336-9384

Before STEWART and RICHMAN, *Circuit Judges*, and SCHOLER, *District Judge*.[*]

PRISCILLA RICHMAN, *Circuit Judge*:

The Clean Air Act (CAA) directs upwind states to eliminate pollution that contributes significantly to nonattainment of national air quality standards in downwind states or that interferes with downwind states' ability to comply with those standards. In 2015, the Environmental Protection Agency (EPA) set a new national air quality standard for ozone, a pollutant. That triggered the CAA requirement for states to develop state implementation plans (SIPs) to achieve the new standard. After considerable delay, EPA disapproved the SIPs of twenty-one states.

This case is one of over twenty resulting lawsuits in eight circuits. The petitioners—Texas, Louisiana, Mississippi, and energy-industry members in those states—seek to vacate the disapprovals of their respective SIPs. They argue that EPA's disapprovals were arbitrary, capricious, and inconsistent with the CAA. We deny the Louisiana and Texas petitioners' petitions for review. We grant the Mississippi petitioners' petition for review, vacate EPA's disapproval of Mississippi's SIP, and remand.

I

A

Congress enacted the CAA to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare."[1] To that end, the CAA "establishes a comprehensive program for controlling and

[*] United States District Judge for the Northern District of Texas, sitting by designation.

[1] 42 U.S.C. § 7401(b)(1). The CAA is codified in the United States Code at 42 U.S.C. §§ 7401-671q. *See BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 821 (5th Cir. 2003).

improving the nation's air quality through state and federal regulation."[2] That program is "an experiment in cooperative federalism" that divides enforcement responsibility between the federal and state governments.[3] "While the federal government has the primary responsibility for identifying air pollutants and setting standards, the states 'bear "the primary responsibility" for implementing those standards' by promulgating state implementation plans."[4]

The regulatory process works like this: First, EPA identifies an air pollutant that "may reasonably be anticipated to endanger public health or welfare."[5] EPA then promulgates national ambient air quality standards (NAAQS) "that specify the maximum permissible concentrations of those pollutants in the ambient air."[6] Next, the Act "shifts the burden to States to propose plans adequate for compliance with the NAAQS. Each State must submit a [SIP] to EPA within three years . . . ."[7] The CAA prescribes several "matters a SIP must cover."[8] But "states have broad authority to determine the methods and particular control strategies they will use to achieve the statutory requirements."[9] They "decide how to measure ambient air quality," "pick 'emission limitations and other control

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[2] *BCCA Appeal Grp.*, 355 F.3d at 821-22.

[3] *See Texas v. EPA* (*Texas 2016*), 829 F.3d 405, 411 (5th Cir. 2016) (quoting *Michigan v. EPA*, 268 F.3d 1075, 1083 (D.C. Cir. 2001)).

[4] *Id.* (quoting *Luminant Generation Co. v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012)).

[5] 42 U.S.C. § 7408(a)(1)(A).

[6] *BCCA Appeal Grp.*, 355 F.3d at 822 (citing 42 U.S.C. §§ 7408-09).

[7] *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 498 (2014) (citing 42 U.S.C. § 7410(a)(1)).

[8] *Id.*

[9] *BCCA Appeal Grp.*, 355 F.3d at 822.

measures,'" and "provide for the enforcement of their prescribed measures."[10]

Once a SIP is submitted, "EPA is charged with assuring that [it] complies with federal law."[11] EPA has six months to determine whether a submission meets certain "minimum criteria," and then an additional twelve months to "act on the submission."[12] EPA's review is confined "to the ministerial function of reviewing SIPs for consistency with the Act's requirements"[13]—if a SIP "meets the statutory criteria of the CAA, then the EPA must approve it."[14]

"If EPA determines that a State has failed to submit an adequate SIP . . . the Act requires [EPA] to promulgate a Federal Implementation Plan, or FIP, within two years . . . ."[15] A FIP corrects "an inadequacy" in a SIP "and provides for attainment of the relevant" NAAQS.[16]

The disputed CAA requirement in this case is the Good Neighbor Provision. The Good Neighbor Provision directs that SIPs must "contain adequate provisions . . . prohibiting . . . emissions activity within the State

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[10] *Ohio v. EPA*, 603 U.S. 279, 283 (2024) (first citing 42 U.S.C. § 7410(a)(2)(B); then quoting *id.* § 7410(a)(2)(A); and then citing *id.* § 7410(a)(2)(C)).

[11] *Texas v. EPA* (*Texas 2012*), 690 F.3d 670, 675 (5th Cir. 2012) (citing 42 U.S.C. § 7410(k)).

[12] 42 U.S.C. § 7410(k)(1)-(2); *see also Luminant Generation Co. v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012).

[13] *Luminant*, 675 F.3d at 921.

[14] *Texas 2012*, 690 F.3d at 676; 42 U.S.C. § 7410(k)(3) (explaining that EPA "shall approve [a SIP submission] as a whole if it meets all of the applicable requirements of this chapter").

[15] *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 498 (2014) (citing 42 U.S.C. § 7410(c)(1)).

[16] 42 U.S.C. § 7602(y).

from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such [NAAQS]."[17] This provision is concerned with two separate problems: (1) states that "contribute significantly to [NAAQS] nonattainment" in another state, and (2) states that "interfere[] with maintenance [of the NAAQS] by" another state.[18] But the CAA nowhere defines these terms.[19]

The Good Neighbor Provision was meant to address the reality that "[a]ir pollution is transient, heedless of state boundaries."[20] "Left unregulated, the emitting or upwind State reaps the benefits of the economic activity causing the pollution without bearing all the costs."[21] "Conversely, downwind States to which the pollution travels are unable to achieve clean air"—and more specifically, the prescribed NAAQS—"because of the influx of out-of-state pollution they lack authority to control."[22]

B

This case involves EPA's 2015 revision of the ozone NAAQS. "A layer of ozone in the atmosphere shields the world from the sun's radiation."[23] However, "[f]orming when sunlight interacts with a wide range

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[17] *Id.* § 7410(a)(2)(D); *EME Homer*, 572 U.S. at 498 ("This statutory requirement, with its text altered over time, has come to be called the Good Neighbor Provision.").

[18] *See North Carolina v. EPA*, 531 F.3d 896, 909-10 (D.C. Cir. 2008) (explaining that each phrase in the statute must be given independent meaning).

[19] *See generally* 42 U.S.C. § 7401 *et seq.*

[20] *EME Homer*, 572 U.S. at 496.

[21] *Id.* at 495.

[22] *Id.*

[23] *Ohio v. EPA*, 603 U.S. 279, 284 (2024).

of precursor pollutants, ground-level ozone can trigger and exacerbate health problems and damage vegetation."[24] In October 2015, EPA decreased the allowable concentration of ozone in the ambient air from 75 parts per billion (ppb) to 70 ppb.[25] That triggered the states' obligation to submit within three years SIPs meeting the new ozone NAAQS.[26]

Texas timely submitted its SIP.[27] Louisiana and Mississippi filed the Good-Neighbor portion of their SIPs approximately one year overdue.[28] The CAA provided EPA eighteen months following each submission to act on each SIP.[29] But EPA proposed disapproval of Texas's, Louisiana's, and Mississippi's SIPs about three years after they were submitted.[30]

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[24] *Id.*

[25] National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65292, 65365 (Oct. 26, 2015).

[26] *See EME Homer*, 572 U.S. at 498 (citing 42 U.S.C. § 7410(a)(1)) (explaining that after a revised NAAQS is promulgated, "[e]ach State must submit a [SIP] within three years").

[27] Air Plan Disapproval; Arkansas, Louisiana, Oklahoma, and Texas; Interstate Transport of Air Pollution for the 2015 8-hour Ozone National Ambient Air Quality Standards (AR, LA, OK, TX Proposed Disapproval), 87 Fed. Reg. 9798, 9824 (Feb. 22, 2022) (noting Texas Good-Neighbor SIP was submitted August 17, 2018).

[28] *Id.* at 9811 (noting Louisiana Good-Neighbor SIP was submitted November 13, 2019); Air Plan Disapproval; AL, MS, TN; Interstate Transport Requirements for the 2015 8-Hour Ozone National Ambient Air Quality Standards (AL, MS, TN Proposed Disapproval), 87 Fed. Reg. 9545, 9554 (Feb. 22, 2022) (noting Mississippi Good-Neighbor SIP was submitted September 3, 2019).

[29] *See* 42 U.S.C. § 7410(k).

[30] *See* AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9798 (proposed disapproval in February 2022); AL, MS, TN Proposed Disapproval, 87 Fed. Reg. at 9545 (same).

1

EPA used a four-step framework to evaluate SIPs for the 2015 ozone NAAQS.[31] EPA has used a version of this framework since at least 2011 to analyze Good-Neighbor obligations.[32] The four-step framework is summarized as follows:

Step 1: EPA identifies ozone monitoring sites (receptors) throughout the country "that are projected to have problems attaining and/or maintaining the NAAQS" in 2023.[33] Nonattainment receptors are those that "are projected to have average design values that exceed the NAAQS and that are also measuring nonattainment based on the most recent monitored design values."[34] Design values are a measure of air quality that EPA compares to the NAAQS; they are calculated by averaging, for three consecutive years, the ozone concentration on the day with the fourth highest ozone concentration that year.[35] Maintenance receptors are those that

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[31] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9799; AL, MS, TN Proposed Disapproval, 87 Fed. Reg. at 9547.

[32] *See EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 500 (2014) (describing EPA's "two-step approach," prescribed in a 2011 rule, in which EPA first "exclude[s] as *de minimis* any upwind State that contributed less than one percent of the . . . NAAQS to any downwind State" and second "sought to generate a cost-effective allocation of emission reductions among those upwind States 'screened in' at step one" (footnote omitted)).

[33] Air Plan Disapprovals; Interstate Transport of Air Pollution for the 2015 8-Hour Ozone National Ambient Air Quality Standards (Disapproval), 88 Fed. Reg. 9336, 9341 (Feb. 13, 2023). The relevant year is 2023 (EPA refers to it as the "analytic year") because it is the ozone season preceding the next date when states will be expected to have achieved a certain level of ozone reduction. *Id.* at 9340-41. However, the selection of 2023 was itself the product of litigation—the selection of the 2023 analytic year is not at issue in this case. *See id.*

[34] *Id.* at 9341.

[35] 40 C.F.R. pt. 50 app. U §§ 1(c), 4.

"would have difficulty maintaining the relevant NAAQS in a scenario that takes into account historical variability in air quality at that receptor."[36] In other words, maintenance receptors are receptors that could read violations of the NAAQS if meteorological conditions promoting ozone formation occur.[37]

Step 2: With nonattainment and maintenance receptors in hand, EPA then quantifies the projected ozone contribution of each upwind state to each of those receptors.[38] EPA also applies a screening threshold of one percent of the NAAQS (i.e., 0.7 ppb)—contributions below that amount are considered *de minimis* and therefore discounted.[39] If a state's contribution to a receptor was equal to or more than one percent of the NAAQS, then that state is considered linked to that receptor.[40]

Step 3: EPA then expects linked states to prepare "a multifactor assessment of potential emissions controls."[41] EPA indicated that a proper analysis would "typically include information on emissions sources, applicable control technologies, emissions reductions, costs, cost effectiveness, and downwind air quality impacts of the estimated reductions, before concluding that no additional emissions controls should be required."[42] EPA explained that at Step 3, it is insufficient for linked states

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[36] Disapproval, 88 Fed. Reg. at 9341.

[37] *See id.*

[38] *Id.* at 9342. Specifically, the metric "is defined as the average impact from each state to each receptor on the days with the highest ozone concentrations at the receptor." *Id.*

[39] *Id.*

[40] *See id.*

[41] *Id.*

[42] *Id.* at 9343.

"merely to point to [their] existing rules requiring control measures as a basis for SIP approval."[43] EPA intends this analysis to "determine whether [a state's] emissions constitute significant contribution or interference with maintenance."[44]

Step 4: Finally, EPA expects states to develop control strategies to "achieve the emissions reductions determined to be necessary at Step 3 to eliminate significant contribution to nonattainment or interference with maintenance of the NAAQS."[45]

2

In its final rule, EPA disapproved the SIPs of twenty-one states, including those of Louisiana, Mississippi, and Texas.[46] The rule incorporated by reference the reasons for disapproval given in EPA's proposed disapprovals.[47] We briefly describe the states' SIPs, which are discussed more fulsomely below.[48]

a

Louisiana's Good-Neighbor analysis followed a three-step approach similar to EPA's four-step approach.[49] Louisiana (1) identified

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[43] *Id.*

[44] *Id.* at 9371.

[45] *Id.* at 9343.

[46] *Id.* at 9336. Two of these disapprovals were partial disapprovals. *Id.*

[47] *Id.* at 9354 ("The full basis for the EPA's disapprovals is available in relevant Federal Register notifications of proposed disapproval for each state . . . .").

[48] *See infra* Part IV. Also, because EPA's final disapproval incorporated by reference the reasons for disapproval given in the proposed disapproval, the following summary cites the proposed disapprovals to explain EPA's reasons for the disapprovals.

[49] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9811 (Feb. 22, 2022).

nonattainment and maintenance receptors, (2) identified those receptors that might be impacted by Louisiana emissions, and (3) determined whether Louisiana emissions contributed significantly to nonattainment or interfered with maintenance.[50] At its Step 2, Louisiana used a threshold of 1 ppb rather than EPA's one-percent threshold.[51] At its Step 3, Louisiana stated that its contribution to downwind receptors is significant "if there is a persistent and consistent pattern of contribution on several days with elevated ozone."[52] The state ultimately concluded that its emissions were insignificant to attainment and maintenance in other states.[53] EPA disapproved Louisiana's SIP.[54]

b

Texas's Good-Neighbor analysis also used an approach similar to EPA's.[55] Texas (1) identified receptors projected to be in nonattainment or have maintenance issues in 2023, (2) identified which of those receptors would be impacted by Texas emissions, and (3) determined whether Texas emissions contributed significantly to nonattainment or interfered with maintenance.[56] At its Step 1, Texas used its own modeling and methodology—not EPA's—to identify nonattainment and maintenance receptors.[57] At its Step 2, Texas used a threshold of one percent of the

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[50] *Id.*

[51] *Id.*

[52] *Id.* at 9812.

[53] *Id.*

[54] Disapproval, 88 Fed. Reg. 9336, 9356 (Feb. 13, 2023).

[55] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9824.

[56] *Id.*

[57] *Id.* at 9826.

NAAQS to identify linked receptors.[58] At its Step 3, Texas used a weight-of-evidence approach, in which it considered several factors to evaluate the significance of its contributions.[59] Like Louisiana, Texas considered a contribution to be significant "only if there is a persistent and consistent pattern of contribution on several days with elevated ozone."[60] The state concluded that emissions from Texas would not contribute significantly to nonattainment or interfere with NAAQS maintenance.[61] EPA disapproved Texas's SIP.[62]

c

Using EPA's 2011-base-year modeling, Mississippi identified that it was projected to contribute 0.79 ppb to the Deer Park nonattainment receptor in Harris County, Texas—the only receptor to which it was projected to contribute more than one percent of the NAAQS.[63] Mississippi used a screening threshold of 1 ppb, instead of EPA's preferred one-percent threshold, to determine that it was not linked to any receptors.[64] Accordingly, Mississippi averred that it did not significantly contribute to downwind nonattainment or interference with maintenance.[65] EPA disapproved Mississippi's SIP.[66]

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[58] *Id.* at 9824-25.

[59] *Id.* at 9826.

[60] *Id.*

[61] *Id.* at 9826.

[62] Disapproval, 88 Fed. Reg. 9336, 9360 (Feb. 13, 2023).

[63] AL, MS, TN Proposed Disapproval, 87 Fed. Reg. 9545, 9555 (Feb. 22, 2022).

[64] *Id.*

[65] *Id.*

[66] Disapproval, 88 Fed. Reg. at 9358.

C

EPA's disapprovals launched over twenty lawsuits in seven other circuits.[67] Petitioners challenging EPA's disapprovals here include Louisiana, Mississippi, and Texas; governmental entities within those states; and businesses.

Louisiana- and Texas-based petitioners moved to stay the disapproval as to their states pending review.[68] EPA moved to transfer venue to the D.C. Circuit.[69] In an unpublished order, a divided panel of this court denied EPA's motion and granted the motions to stay.[70] Mississippi later also filed a motion to stay, which was granted by the panel in another unpublished order.[71]

II

In 42 U.S.C. § 7607(b)(1), the CAA provides that challenges to certain regulations may be brought only in the D.C. Circuit. EPA urges that petitioners' challenges must be transferred to the D.C. Circuit because they fall within that command. Section 7607(b)(1) states:

> A petition for review of action of the Administrator in promulgating any national primary or secondary ambient air quality standard, any [of several specified determinations

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[67] *See* EPA Br. at 50 & n.27 (identifying lawsuits in the Fourth, Sixth, Eighth, Ninth, Tenth, Eleventh, and D.C. Circuits).

[68] ECF 31 (Texas motion); ECF 32 (Tex. Indus. motion); ECF 112 (Louisiana motion).

[69] ECF 50.

[70] *Texas v. EPA* (*Texas I*), No. 23-60069, 2023 WL 7204840 (5th Cir. May 1, 2023) (per curiam).

[71] ECF 304 (motion); *Texas v. EPA* (*Texas II*), No. 23-60069, 2023 WL 7211088 (5th Cir. June 8, 2023) (per curiam).

> under named sections of the CAA], or any other nationally applicable regulations promulgated, or final action taken, by the Administrator under this chapter may be filed only in the United States Court of Appeals for the District of Columbia. A petition for review of the Administrator's action in approving or promulgating any implementation plan under section 7410 of this title[, any of another set of identified CAA actions], or any other final action of the Administrator under this chapter (including any denial or disapproval by the Administrator under subchapter I) which is locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit. Notwithstanding the preceding sentence a petition for review of any action referred to in such sentence may be filed only in the United States Court of Appeals for the District of Columbia if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination.[72]

Before beginning our discussion, we address a threshold argument. Texas contends that EPA's request to transfer to the D.C. Circuit is untimely because the motions panel denied EPA's motion to transfer.[73] In the motions panel's unpublished order, after denying the motion to transfer and granting the motions to stay, the panel explained: "Our ruling here concerns only the motion for transfer, the motion to dismiss, and the motions for stay pending review; 'our determinations are for that purpose' only 'and do not bind the merits panel.'"[74] Texas, however, argues that we are bound by the motions panel's transfer holding, even if we are not bound by the other

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[72] 42 U.S.C. § 7607(b)(1).

[73] Tex. Gov't Reply Br. at 2.

[74] *Texas I*, 2023 WL 7204840, at *11 (quoting *Veasey v. Abbott*, 870 F.3d 387, 392 (5th Cir. 2017) (per curiam)).

holdings.[75] We disagree. The motions panel did not distinguish between the motion to transfer and the other motions when acknowledging that its holdings would not bind the merits panel. Moreover, we have consistently stated that "opinions and orders of a panel with initial responsibility for resolving motions filed in an appeal are not binding on the later panel that is assigned the appeal for resolution."[76] We have discretion to reconsider the motions panel's venue determination.[77]

Usually, the venue determination pursuant to § 7607(b)(1) "requires us to conduct a two-step analysis:" First, "we determine whether the challenged agency action is 'nationally applicable' as distinguished from 'locally or regionally applicable.'"[78] If the challenged agency action is nationally applicable, "our inquiry ends because proper venue exists only in the D.C. Circuit."[79] "But if the challenged action is 'locally or regionally applicable,' we proceed to step two."[80]

The second step "begins with the default presumption that venue is proper in this circuit."[81] "To overcome that default presumption, a challenged action must satisfy two necessary and independent sub-

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[75] Tex. Gov't Reply Br. at 2-3.

[76] *Tex. Democratic Party v. Abbott*, 978 F.3d 168, 176 (5th Cir. 2020); *see also E.E.O.C. v. Neches Butane Prods. Co.*, 704 F.2d 144, 147 (5th Cir. 1983) ("A denial by a motions panel of a motion to dismiss for want of jurisdiction, however, is only provisional."); *cf. Northshore Dev., Inc. v. Lee*, 835 F.2d 580, 583 (5th Cir. 1988) ("We have stated before that a motions panel decision is not binding precedent.").

[77] *Cf. Stevens v. Corbell*, 832 F.2d 884, 887 & n.3 (5th Cir. 1987).

[78] *Calumet Shreveport Refin., L.L.C. v. EPA*, 86 F.4th 1121, 1131 (5th Cir. 2023) (quoting 42 U.S.C. § 7607(b)(1)).

[79] *Id.*

[80] *Id.*

[81] *Id.*

conditions."[82] They are: "(a) the challenged action 'is based on a determination of nationwide scope or effect' and (b) the [EPA], in taking that challenged action, 'finds and publishes that such action is based on such a determination.'"[83] "Only if both sub-conditions are satisfied is venue proper solely in the D.C. Circuit."[84]

That said, § 7607(b)(1) speaks specifically about proper venue for review of EPA actions on a SIP. The provision is not a model of clarity. Section 7607(b)(1) says that venue for "[a] petition for review of the Administrator's action in approving or promulgating any implementation plan under section 7410"—the section governing the content and review of SIPs—"or any other final action of the Administrator under this Chapter (including any denial or disapproval by the Administrator under subchapter I) which is locally or regionally applicable" is presumptively proper in the regional courts of appeal.[85] This case does not involve review of EPA's "action in approving or promulgating" a SIP under § 7410. Instead, petitioners seek review of a "disapproval" under § 7410, which is "under subchapter I" of the CAA. Because "any other final action" includes "any . . . disapproval . . . under subchapter I," review of challenges to SIP disapprovals are treated like "any other final action" for venue-determination purposes. Accordingly, these challenges are subject to the typical first step of the § 7607(b)(1) venue inquiry: we must ask whether the challenged final action is "nationally applicable" or instead "locally or regionally applicable."

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[82] *Id.*

[83] *Id.*

[84] *Id.*

[85] 42 U.S.C. § 7607(b)(1).

Our analysis proceeds in three parts. We (A) specify the final action under review, (B) discuss whether the disapprovals were "nationally applicable" or instead "locally or regionally applicable," and (C) determine whether the disapprovals were "based on," and found and published by EPA to be based on, "a determination of nationwide scope or effect."

A

Section 7607(b)(1) directs that a petition for review of "any other final action . . . which is locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit."[86] The parties disagree about what the "final action" is in the present case within the meaning of § 7607(b)(1). In EPA's view, the final action was EPA's final rule disapproving twenty-one states' SIPs.[87] In the petitioners' view, "[t]he relevant unit of administrative action here is the EPA's individual SIP denials."[88]

We agree with the petitioners. The text of the CAA answers this question. We begin with § 7607(b)(1) itself, which contemplates review of EPA's "action in approving or promulgating any implementation plan" (singular).[89] This indicates that the relevant unit of analysis for venue in cases challenging SIP approvals is the approval of one SIP, regardless of whether EPA chooses to publish the approval alongside action on other SIPs. We see nothing in the text indicating that Congress intended a different approach for venue determinations of challenges to

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[86] *Id.*

[87] EPA Br. at 60.

[88] Tex. Indus. Reply Br. at 3 (quoting *Texas I*, No. 23-60069, 2023 WL 7204840, at *4 (5th Cir. May 1, 2023) (per curiam)).

[89] 42 U.S.C. § 7607(b)(1).

"any . . . disapproval . . . under subchapter I," which includes a SIP disapproval.[90]

This reading is confirmed by 42 U.S.C. § 7410, which, as mentioned, governs the content and review of SIPs. Throughout the relevant provisions, § 7410 focuses on individual SIPs. It directs "[e]ach State" to adopt a SIP, and it provides that "[e]ach implementation plan" shall have certain content.[91] Then, under § 7410(k)(3), "[i]n the case of any [SIP] submittal," EPA "shall approve such submittal" if it complies with the CAA and disapprove it if it does not.[92] We agree with the motions panel: "As required by § 7410(k)(3), the EPA *separately considered and disapproved* Texas's SIP, Louisiana's SIP, and Mississippi's SIP because (in its judgment) each failed to comply with the Good Neighbor Provision."[93] The petitioners seek review of these disapprovals.

EPA objects that § 7607(b)(1) "bases national applicability on the scope of EPA's final action," meaning that "EPA's discretionary choices about how to order its docket may determine the appropriate forum for challenges to those actions."[94] We agree with EPA's premise but disagree that its conclusion follows. Section 7607(b)(1) is focused on the scope of the challenged action, but that only raises the question of what the relevant action is. Here, as discussed, the text of §§ 7410 and 7607(b)(1) indicates that the final action under review is EPA's individual disapproval of each state's SIP, not the final rule grouping twenty-one of those disapprovals together.

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[90] *Id.*

[91] *Id.* § 7410(a)(1)-(2).

[92] *Id.* § 7410(k)(3).

[93] *Texas I*, 2023 WL 7204840, at *4.

[94] EPA Br. at 63-64.

B

We turn to the first step of the venue analysis: determining whether the disapprovals were "nationally applicable" or "locally or regionally applicable."[95] Our court has previously held that "it is the *legal* effect—and not the practical effect—of an agency action that determines whether that action is 'nationally applicable.'"[96]

EPA argues that "[o]n its face, the Disapproval is nationally applicable" because it applied a consistent framework to disapprove SIP submissions "from 21 states in eight of the ten EPA regions and ten federal judicial circuits."[97] But, as explained above, the relevant actions under review are the disapprovals of Louisiana's, Texas's, and Mississippi's SIPs. Those disapprovals are plainly "locally or regionally applicable" because their legal effect is limited to those states. That conclusion is not surprising given that courts have consistently explained that SIP approvals and disapprovals are the paradigmatic examples of locally or regionally applicable actions.[98]

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[95] 42 U.S.C. § 7607(b)(1).

[96] *Calumet Shreveport Refin., L.L.C. v. EPA*, 86 F.4th 1121, 1131 (5th Cir. 2023).

[97] EPA Br. at 59.

[98] *See, e.g.*, *Texas 2016*, 829 F.3d 405, 419 n.16 (5th Cir. 2016) ("[T]he statutory text [of § 7607(b)(1)] places review of SIP approvals or disapprovals in the regional circuits while providing an exception for review of a small subset of those actions in the D.C. Circuit."); *Am. Rd. & Transp. Builders Ass'n v. EPA*, 705 F.3d 453, 455 (D.C. Cir. 2013) ("EPA's 'action in approving or promulgating any [SIP]' is the prototypical 'locally or regionally applicable' action that may be challenged only in the appropriate regional court of appeals." (citing *Tex. Mun. Power Agency v. EPA*, 89 F.3d 858, 866 (D.C. Cir. 1996) (per curiam))); *ATK Launch Sys., Inc. v. EPA*, 651 F.3d 1194, 1199 (10th Cir. 2011) (describing action on a SIP as "an undisputably regional action"); *Tex. Mun. Power Agency*, 89 F.3d at 866 ("[T]reating the NADB as a nationally applicable rule does not undermine

Contrast the agency action at issue in our decision in *Texas v. EPA* (*Texas 2011*).[99] In *Texas 2011*, EPA issued a call for SIP revisions under 42 U.S.C. § 7410(k)(5) after the agency determined that greenhouse gasses were a part of the prevention-of-significant-deterioration program.[100] We granted a motion to transfer venue, holding that the challenged SIP call was nationally applicable.[101] As we recently described that decision: "The SIP Call in *Texas 2011* was sufficient—by itself—to change regulated entities' legal obligations. It required *all* states to apply their 'prevention-of-significant-deterioration' programs to 'greenhouse-gas-emitting sources.' States whose plans already met that requirement were just as bound as states with violative plans."[102] Here, however, the text of §§ 7410 and 7607(b)(1) indicates that the challenged actions are the individual SIP disapprovals, which only affected the legal obligations of each respective state.

We acknowledge that the Tenth Circuit reached a contrary conclusion when reviewing EPA's disapprovals of Oklahoma's and Utah's SIPs, which were contained in the rule that also disapproved Louisiana's, Texas's and Mississippi's SIPs.[103] The Tenth Circuit first held that under § 7607(b)(1)'s plain text, "whether a petition for review belongs in the D.C. Circuit turns

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[§ 7607(b)(1)]'s 'locally applicable' clause, which is relevant to other EPA actions, such as state implementation plans.").

[99] No. 10-60961, 2011 WL 710598 (5th Cir. 2011 Feb. 24, 2011).

[100] *Id.* at *1.

[101] *Id.* at *3.

[102] *Calumet Shreveport Refin., L.L.C. v. EPA*, 86 F.4th 1121, 1131 (5th Cir. 2023) (citation omitted) (quoting *Texas 2011*, 2011 WL 710598, at *1-2).

[103] *Oklahoma v. EPA*, 93 F.4th 1262, 1264 (10th Cir. 2024).

exclusively on the nature of the challenged agency action."[104] The Tenth Circuit then reasoned:

> On its face, the final EPA action being challenged here is nationally applicable. Petitioners seek review of a final rule disapproving SIPs from 21 states across the country—spanning eight EPA regions and ten federal judicial circuits—because those states all failed to comply with the good-neighbor provision. And in promulgating that rule, the EPA applied a uniform statutory interpretation and common analytical methods, which required the agency to examine the overlapping and interwoven linkages between upwind and downwind states in a consistent manner. Because a final action with these features is "nationally applicable" under § 7607(b)(1), judicial review is proper only in the D.C. Circuit.[105]

With respect to our colleagues on the Tenth Circuit, we disagree. Certainly, the determination under § 7607(b)(1) turns on the nature of the challenged agency action. But we part company with the Tenth Circuit in determining what that action is in this case. As previously discussed, the text of §§ 7410 and 7607(b)(1) indicates that the relevant unit of analysis is an individual SIP disapproval, even if that disapproval is finalized in a rule alongside other actions by EPA. The nature of that action here is undoubtedly local or regional.

The Tenth Circuit criticized the approach we follow today as "focus[ing] on the nature of the petitions" rather than "focus[ing] on the face of the rule as is required."[106] But that is neither our approach nor what

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[104] *Id.* at 1266.

[105] *Id.* (citations omitted).

[106] *Id.* at 1268.

§ 7607(b)(1) requires. Section 7607(b)(1) directs us to evaluate the effect of the challenged "final action,"—here, "disapproval[s]" under § 7410(k)(3)[107]—not to focus on the contents of a "rule" (a term used elsewhere in § 7607(b)(1)).[108] With respect, the Tenth Circuit did not base its conclusion that the rule is the challenged action, rather than the individual disapprovals, on any text in §§ 7410 or 7607(b)(1). The Fourth and Sixth Circuits have also denied motions to transfer in cases arising out of this same set of disapprovals; those circuits, parsing the CAA's text, agree that the relevant action is EPA's disapproval of each state's SIP.[109] Consistently with those circuits, we hold that EPA's disapprovals of the states' SIPs were locally or regionally applicable.

C

At the second step of the venue analysis, venue is proper only in the D.C. Circuit if the challenged action (1) is "based on a determination of nationwide scope or effect, and (2) the Administrator, in taking such action 'finds and publishes that such action is based on such a determination.'"[110] The second condition is satisfied. In the final rule disapproving the states'

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[107] *See* 42 U.S.C. § 7607(b)(1).

[108] *Contra Oklahoma*, 93 F.4th at 1268.

[109] *See West Virginia v. EPA*, 90 F.4th 323, 330 (4th Cir. 2024) ("[T]he relevant agency action for our review here is the EPA's disapproval of West Virginia's SIP. And the fact that the EPA consolidated its disapprovals in a single final rule does not, by that fact alone, make its 21 separate decisions included within its final rule either a single nationally applicable action or one based on a determination of nationwide scope or effect."); *Kentucky v. EPA*, Nos. 23-3216/3225, 2023 WL 11871967, at *2 (6th Cir. July 25, 2023) ("The relevant unit of administrative action here is EPA's individual SIP denials." (quoting *Texas I*, No. 23-60069, 2023 WL 7204840, at *4 (5th Cir. May 1, 2023) (per curiam))).

[110] *Calumet Shreveport Refin., L.L.C. v. EPA*, 86 F.4th 1121, 1132 (5th Cir. 2023) (quoting 42 U.S.C. § 7607(b)(1)).

SIPs, EPA stated the Administrator found that the disapprovals were "based on a determination of 'nationwide scope or effect' within the meaning of [42 U.S.C. § 7607(b)(1)]."[111] Our conclusion, therefore, turns on whether the challenged disapprovals were "based on a determination of nationwide scope or effect."[112]

To determine whether an action was based on a determination of nationwide scope or effect, we look to the "justifications the agency g[ave] for the action."[113] Those justifications "are the reason the agency takes the action that it does."[114] "Because the statute speaks of the determinations the action 'is based on,' the relevant determinations are those that lie at the core of the agency action."[115] "[P]eripheral or extraneous determinations are not relevant . . . ."[116] An agency action that is based on "intensely factual determinations" particular to a locality is not based on a determination of nationwide scope or effect.[117]

EPA argues that the SIP disapprovals were "based on a common core of nationwide policy judgments and technical analysis concerning the interstate transport of pollutants throughout the continental" United States.[118] EPA emphasizes that "[w]hen states argued for the use of alternative approaches or datasets, EPA evaluated them 'with an eye to

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[111] Disapproval, 88 Fed. Reg. 9336, 9380 (Feb. 13, 2023).

[112] *See* 42 U.S.C. § 7607(b)(1).

[113] *Texas 2016*, 829 F.3d 405, 419 (5th Cir. 2016).

[114] *Id.*

[115] *Id.*

[116] *Id.*

[117] *See id.* at 421.

[118] EPA Br. at 68 (quoting Disapproval, 88 Fed. Reg. 9336, 9380 (Feb. 13, 2023)).

ensuring national consistency and avoiding inconsistent or inequitable results.'"[119]

EPA's argument is unpersuasive. As required by the CAA,[120] EPA based its challenged disapprovals on determinations about each state's individual SIP submission. The rule disapproving the states' SIPs explains that although EPA applied a consistent framework to evaluate each state's SIP, "the contents of each individual state's submission were evaluated on their own merits."[121] The rule then explains, state by state, why EPA was disapproving each state's SIP submission. For each state, it explains features of the state's submission and EPA's own modeling that precipitated the submission's disapproval.[122] These "intensely factual determinations" demonstrate that the challenged disapprovals were not "based on a determination of nationwide scope or effect."[123]

True, Section V of the rule, titled "Response to Key Comments," discussed features of EPA's process that applied to more than one disapproval.[124] But the determinations that "lie at the core" of the challenged agency actions are those in the rule's state-specific explanations, not in EPA's response to comments.[125] EPA's response to comments explained why it was rejecting objections to its proposed disapprovals of the

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[119] EPA Br. at 68 (quoting Disapproval, 88 Fed. Reg. at 9381).

[120] *See* 42 U.S.C. § 7410(k)(2)-(3).

[121] Disapproval, 88 Fed. Reg. at 9354.

[122] *See, e.g.*, *id.* at 9356 (disapproval of Louisiana's submission).

[123] *Texas 2016*, 829 F.3d 405, 421-22 (5th Cir. 2016).

[124] *See* Disapproval, 88 Fed. Reg. at 9361.

[125] *Texas 2016*, 829 F.3d at 419.

SIP submissions.[126] EPA's disapproval of Texas's, Louisiana's, and Mississippi's SIPs were based on determinations specific to each state's SIP, not on determinations with nationwide scope or effect. This circuit, and not the D.C. Circuit, is the appropriate venue for petitioners' challenges.

III

Petitioners contend that the SIP approvals must be set aside because EPA overstepped its statutory role. They argue that the CAA empowers the states to interpret any ambiguities in the Good Neighbor Provision—and that EPA may not disagree with a state's reasonable interpretation.[127] They maintain that EPA acted contrary to the CAA by failing to accept the states' interpretations of the Good Neighbor Provision.

EPA takes the opposite view, arguing that its obligation to determine the SIPs' compliance with the CAA authorizes it to interpret the Good Neighbor Provision.[128] In its view, the Supreme Court, in *EPA v. EME Homer*

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[126] *See, e.g.*, Disapproval, 88 Fed. Reg. at 9365-66 (rejecting objection to EPA's use of updated modeling).

[127] *See, e.g.*, Tex. Gov't Reply Br. at 13-14 ("The good-neighbor provision delegates interpretive authority to the *States* in the first instance at the SIP stage."); Tex. Indus. Br. at 36 ("While EPA's framework may (or may not) be a reasonable interpretation for a particular FIP, Texas has the discretion to adopt a *different* reasonable approach under its statutory SIP authority granted by 42 U.S.C. § 7410(a)."); Miss. Br. at 23 (arguing that EPA must defer to a state's "'permissible' construction[] of the Good Neighbor Provision"); La. Indus. Reply Br. at 7 ("[I]f reasonable minds could differ as to what would constitute 'significant contribution' or 'interference with maintenance,' EPA cannot interject its policy preferences because it is the State's rationale that must prevail."); *see also* La. Gov't Reply Br. at 6 ("Without [an] authoritative interpretation, EPA lacks authority to reject a reasonable interpretation of the CAA . . . by Louisiana.").

[128] EPA Br. at 79-81.

City Generation, L.P.,[129] "firmly held that Congress delegated to EPA the interpretive authority over the Good Neighbor Provision."[130]

Although highly relevant to our analysis, *EME Homer* does not answer the question of the allocation of interpretive authority, if any, between EPA and the states. In *EME Homer*, the Court assessed a FIP called "the Transport Rule."[131] The Transport Rule covered twenty-seven states.[132] "For each of these States, EPA had determined that the State had failed to submit a SIP adequate for compliance with the Good Neighbor Provision."[133] Only three states challenged those determinations in other proceedings, and the Court recognized that the respondents' arguments against the Transport Rule accepted the validity of the SIP disapprovals.[134] Instead, the respondents principally argued that the Transport Rule employed an impermissible method for "allocat[ing] among multiple contributing upwind States responsibility for a downwind State's excess pollution."[135]

The Court sided with EPA. It held that the Good Neighbor Provision is ambiguous, requiring deference to EPA's interpretation under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*[136] In the Transport

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[129] 572 U.S. 489 (2014).

[130] EPA Br. at 87.

[131] *EME Homer*, 572 U.S. at 500.

[132] *Id.*

[133] *Id.* at 503.

[134] *Id.* at 503 & n.11, 506-07.

[135] *Id.* at 514; *see also id.* at 513-20.

[136] 467 U.S. 837 (1984), *overruled by Loper Bright Enters. v. Raimondo*, 603 U.S. 369 (2024); *see EME Homer*, 572 U.S. at 512-14 ("We conclude that the Good Neighbor

Rule, EPA interpreted the Good Neighbor Provision to create this test: "upwind emissions rank as 'amounts [that] . . . contribute significantly to nonattainment' if they (1) constitute one percent or more of a relevant NAAQS in a nonattaining downwind State and (2) can be eliminated under the cost threshold set by the Agency."[137] The Court concluded that "[l]acking a dispositive statutory instruction to guide it, EPA's decision . . . [was] a 'reasonable way' of filling the 'gap left open by Congress.'"[138]

EME Homer, however, did not address the relationship between EPA and the states in the SIP process. In a footnote, the Court explained that "[t]hough we speak here of 'EPA's task,' the Good Neighbor Provision is initially directed to upwind States. . . . [O]nly after a State has failed to propose a SIP adequate for compliance with the provision is EPA called upon to act."[139] Accordingly, *EME Homer* does not answer how the CAA allocates interpretive authority over the Good Neighbor Provision between EPA and the states.

We do not need to decide the question of interpretive authority or the effect of the Supreme Court's recent decision in *Loper Bright Enterprises v. Raimondo*[140] regarding deference to agencies' interpretations of the statutes

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Provision delegates authority to EPA at least as certainly as the CAA provisions involved in *Chevron*.").

[137] *EME Homer*, 572 U.S. at 518 (alterations in original) (quoting Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48208, 48254 (Aug. 8, 2011)).

[138] *Id.* at 520 (quoting *Chevron*, 467 U.S. at 866).

[139] *Id.* at 514 n.15.

[140] 603 U.S. 369 (2024).

they administer.[141] As we discuss in detail below, EPA explained that Louisiana's, Texas's, and Mississippi's SIP submissions were flawed on their own terms. Accordingly, it is sufficient for us to hold that, at the very least, the CAA directs EPA to assess independently whether a SIP satisfies a state's chosen reasonable interpretation of the Good Neighbor Provision.

EPA review of SIP submissions is governed by 42 U.S.C. § 7410(k). The statute requires two steps. EPA must initially determine whether the SIP submission meets minimum completeness criteria.[142] If EPA concludes that the submission is complete, EPA must then decide whether to approve or disapprove the submission.[143] The statute directs:

> [T]he Administrator shall approve [a SIP] as a whole if it meets all of the applicable requirements of this chapter. If a portion of the plan revision meets all the applicable requirements of this chapter, the Administrator may approve the plan revision in part and disapprove the plan revision in part.[144]

Petitioners contend that EPA's review under this provision ends if the agency concludes that the submission proffers a reasoned analysis. Their view is that in addition to accepting a state's reasonable interpretation of the

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[141] *Id.* at 412 ("*Chevron* is overruled. Courts must exercise their independent judgment in deciding whether an agency has acted within its statutory authority, as the APA requires.").

[142] 42 U.S.C. § 7410(k)(1).

[143] *Id.* § 7410(k)(2)-(3).

[144] *Id.* § 7410(k)(3).

Good Neighbor Provision, EPA must approve a SIP so long as the submission does not unreasonably apply the state's interpretation.[145]

We disagree. "EPA is charged with assuring that a state SIP complies with federal law."[146] That statutory charge means that, even assuming EPA must accept a state's reasonable interpretation of the Good Neighbor Provision, EPA must undertake an independent analysis of whether the submission complies with the Provision. That conclusion flows from the CAA's text and structure, as well as the purpose of the Good Neighbor Provision.

We start with the text of the Good Neighbor Provision itself. It requires SIPs to "contain adequate provisions . . . prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such [NAAQS]."[147] "[T]he Good Neighbor Provision is initially directed to upwind States" in the sense that "only after a State has failed to propose a SIP adequate for compliance with the provision is EPA called upon to act."[148] But the Provision does not expressly entrust either the states or EPA

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[145] *See* Miss. Reply Br. at 4 ("State plans must be based on permissible constructions of the Act and supported by a reasoned analysis." (quotation marks and alteration omitted)); La. Gov't Reply Br. at 5-6 (arguing that "EPA lacks authority to reject a reasonable interpretation of the CAA or a reasonable application of such interpretation by Louisiana"); La. Indus. Br. at 7-8 (same); Tex. Gov't Reply Br. at 14-15 ("Only when a state agency's determination is not based on reasoned analysis should EPA step in to ensure that the statutory requirements are honored." (quotation marks and ellipses omitted)).

[146] *Texas 2012*, 690 F.3d 670, 675 (5th Cir. 2012).

[147] 42 U.S.C. § 7410(a)(2)(D).

[148] *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 514 n.15 (2014).

with determining whether a SIP contains the required "adequate provisions"—it only assigns to states the obligation to submit SIPs prohibiting specified emissions.[149] Accordingly, the text of the Good Neighbor Provision does not answer whether EPA must defer to reasoned state explanations.

The SIP-review provision, § 7410(k)(3), is not so equivocal. That provision is framed from EPA's perspective—it directs EPA to approve a submission in full "if it meets all of the applicable requirements," or to approve a submission in part "if a portion of the plan revision meets all the applicable requirements."[150] The provision then specifies that a SIP submission "shall not be treated as meeting the requirements of this chapter until the Administrator approves the entire [submission] as complying with the applicable requirements of this chapter."[151] The text puts EPA in the driver's seat for evaluating a SIP's compliance with the CAA. EPA is to determine whether the submission meets the applicable statutory requirements, not whether the submission has offered a reasoned analysis.

This reading is confirmed by other CAA provisions like 42 U.S.C. § 7410(*l*), which governs review of a revision of a previously approved SIP. It directs EPA not to approve a revision "if the revision would interfere with any applicable requirement concerning attainment . . . or any other applicable requirement of this chapter."[152] Like § 7410(k)(3), § 7410(*l*) asks

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[149] *See* 42 U.S.C. § 7410(a)(2)(D); *cf., e.g.*, 42 U.S.C. § 7479(3) (assigning to "permitting authorit[ies]" the role to determine, on a "case-by-case basis," what is the "best available control technology" in light of specified factors).

[150] 42 U.S.C. § 7410(k)(3).

[151] *Id.*

[152] *Id.* § 7410(*l*).

EPA to determine a submission's compliance with the CAA, not to determine whether a state's application of the CAA is reasonable.

42 U.S.C. § 7410(k)(5) obligates EPA to call for SIP revisions if EPA finds that an area's implementation plan is deficient. It provides:

> Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant [NAAQS], to mitigate adequately the interstate pollutant transport described in section 7506a of this title or section 7511c of this title, or to otherwise comply with any requirement of this chapter, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies.[153]

This provision unambiguously grants EPA authority to determine for itself that a SIP is substantially inadequate to achieve statutory requirements. It is implausible that Congress expected EPA to defer to states during the SIP-approval process, approving a Good-Neighbor submission if it is reasoned but (in EPA's view) substantially inadequate—and then expected EPA to turn around and call for a SIP revision after an independent analysis. "When we read Congress's statutes, 'it is our role to make sense rather than nonsense out of the *corpus juris*.'"[154] The statute coheres if EPA is instead charged from the start with independently assessing whether a SIP complies with the Good Neighbor Provision.

Similar support comes from 42 U.S.C. § 7426, which creates a mechanism for downwind states to complain to EPA about Good Neighbor Provision violations:

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[153] *Id.* § 7410(k)(5).

[154] *Ali v. Barr*, 951 F.3d 275, 280 (5th Cir. 2020) (quoting *W. Va. Univ. Hosps., Inc. v. Casey*, 499 U.S. 83, 101 (1991)).

> Any State or political subdivision may petition the Administrator for a finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of section 7410(a)(2)(D)(ii)[, the Good Neighbor Provision]. Within 60 days after receipt of any petition under this subsection and after public hearing, the Administrator shall make such a finding or deny the petition.[155]

Accordingly, on a petition by a state or political subdivision, EPA is obligated to assess for itself whether a source emits pollutants inconsistently with the Good Neighbor Provision. We see nothing in the CAA's text indicating that EPA's role at the SIP-approval stage is any different.

Contrast the SIP-review provisions with the provisions discussed in the Supreme Court's opinion in *Alaska Department of Environmental Conservation v. EPA* (*ADEC*).[156] At issue in *ADEC* was EPA's role in reviewing a state's decision to issue a so-called Prevention of Significant Deterioration (PSD) permit under the CAA.[157] A PSD permit could only issue if "the proposed facility is subject to the best available control technology for each pollutant subject to [CAA] regulation . . . emitted from . . . [the] facility."[158] The CAA defined "best available control technology" (BACT) as:

> an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic

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[155] 42 U.S.C. § 7426(b).

[156] 540 U.S. 461 (2004).

[157] *Id.* at 468.

[158] *Id.* at 472 (alterations in original) (quoting 42 U.S.C. § 7475(a)(4)).

> impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques.[159]

The provisions authorizing EPA review of PSD permitting decisions were 42 U.S.C. §§ 7413(a)(5) and 7477. The former stated:

> "[W]henever, on the basis of any available information, [EPA] finds that a State is not acting in compliance with any requirement or prohibition of the chapter relating to the construction of new sources or the modification of existing sources," EPA may "issue an order prohibiting the construction or modification of any major stationary sources in any area to which such requirement applies."[160]

The latter required EPA to "take such measures, including issuance of an order, or seeking injunctive relief, as necessary to prevent the construction or modification of a major emitting facility which does not conform to the [PSD] requirements."[161]

In *ADEC*, the state regulatory agency (ADEC) contended that EPA's review was restricted to evaluating merely whether the permit contained a BACT limitation.[162] The Court disagreed, concluding that the CAA's review provisions permitted EPA "to rule on the reasonableness of BACT decisions by state permitting authorities."[163] The Court noted that the definition of BACT "entrusted state permitting authorities with initial

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[159] *Id.* (quoting 42 U.S.C. § 7479(3)).

[160] *Id.* at 473-74 (second alteration in original) (citation omitted) (quoting 42 U.S.C. 7413(a)(5)).

[161] *Id.* at 474 (alteration in original) (quoting 42 U.S.C. § 7477).

[162] *Id.* at 488.

[163] *Id.* at 495.

responsibility to make BACT determinations 'case-by-case,'" considering site-specific factors.[164] But, the Court reasoned, "Congress'[s] sensitivity to site-specific factors [does not] necessarily imply a design to preclude in this context meaningful EPA oversight under §§ [7413(a)(5) and 7477]."[165] Instead, the Court concluded:

> We fail to see why Congress, having expressly endorsed an expansive surveillance role for EPA in two independent CAA provisions, would then implicitly preclude the Agency from verifying substantive compliance with the BACT provisions and, instead, limit EPA's superintendence to the insubstantial question whether the state permitting authority had uttered the key words "BACT."[166]

The Court explained that it is "[o]nly when a state agency's BACT determination is 'not based on a reasoned analysis,'" that EPA may "step in to ensure that the statutory requirements are honored."[167] The Court concluded that "EPA adhered to that limited role" in *ADEC*, by "explaining why ADEC's BACT determination was 'arbitrary' and contrary to ADEC's own findings."[168] The Court said, "EPA's limited but vital role in enforcing BACT is consistent with a scheme that 'places primary responsibilities and authority with the States, backed by the Federal Government.'"[169]

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[164] *Id.* at 488 (quoting 42 U.S.C. § 7479(3)).

[165] *Id.* at 489.

[166] *Id.* at 490.

[167] *Id.*

[168] *Id.* at 491.

[169] *Id.* (quoting S. Rep. No. 95–127, p. 29).

The Good Neighbor Provision looks starkly different than the BACT definition. The Good Neighbor Provision's command is for SIP submissions to have "adequate provisions" prohibiting emissions of certain air pollutants.[170] Although "the Good Neighbor Provision is initially directed to upwind States,"[171] it does not expressly grant states authority to determine whether their SIPs "contain adequate provisions . . . prohibiting" specified emissions.[172] Instead, the SIP-review provision assigns to EPA the determination of whether a SIP submission "meets all of the applicable requirements" of the Good Neighbor Provision by providing for adequate emissions controls.[173]

The CAA's cooperative federalism structure also indicates that Congress intended EPA to assess independently whether a SIP complies with the Good Neighbor Provision. "The Clean Air Act gives each state 'wide discretion in formulating its plan' for achieving the air quality standards set by EPA."[174] "[S]o long as the ultimate effect of a State's choice of emission limitations is compliance with the national standards for ambient air, the State is at liberty to adopt whatever mix of emission limitations it deems best suited to its particular situation."[175] EPA's role is confined "to the ministerial function of reviewing SIPs for consistency with

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[170] 42 U.S.C. § 7410(a)(2)(D).

[171] *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 514 n.15 (2014).

[172] 42 U.S.C. § 7410(a)(2)(D).

[173] *See id.* § 7410(k)(3).

[174] *Texas 2016*, 829 F.3d 405, 411 (5th Cir. 2016) (quoting *Union Elec. Co. v. EPA*, 427 U.S. 246, 250 (1976)).

[175] *Id.* (alteration in original) (quoting *Train v. Nat. Res. Def. Council, Inc.*, 421 U.S. 60, 79 (1975)); *see also Union Elec.*, 427 U.S. at 266 ("So long as the national standards are met, the State may select whatever mix of control devices it desires.").

the Act's requirements."[176] "This division of responsibility between the states and the federal government 'reflects the balance of state and federal rights and responsibilities characteristic of our federal system of government.'"[177]

The CAA gives the states broad authority: no matter how a state designs its SIP, if it "meets the statutory criteria of the CAA, then the EPA must approve it."[178] But so too does the CAA give EPA an important role: "EPA is charged with assuring that a state SIP complies with federal law."[179] State discretion in designing emissions controls, subject to EPA review for compliance with the Good Neighbor Provision, vindicates the "balance of state and federal rights and responsibilities" chosen by Congress.[180]

This reading also comports with the purpose of the Good Neighbor Provision. The Provision is meant to address the "complex problem" of "air pollution emitted in one State, but causing harm in other States."[181] "Left unregulated, the emitting or upwind State reaps the benefits of the economic activity causing the pollution without bearing all the costs."[182] Congress recognized that "downwind States to which the pollution travels are unable to achieve clean air because of the influx of out-of-state pollution they lack

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[176] *Texas 2016*, 829 F.3d at 411 (quoting *Luminant Generation Co. v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012)).

[177] *Id.* (quoting *Luminant*, 675 F.3d at 921).

[178] *Texas 2012*, 690 F.3d 670, 676 (5th Cir. 2012).

[179] *Id.* at 675.

[180] *Texas 2016*, 829 F.3d at 411 (quoting *Luminant*, 675 F.3d at 921).

[181] *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 495 (2014).

[182] *Id.*

authority to control."[183] Congress intended the Good Neighbor Provision to address this.[184] Petitioners' view of EPA's review role, however, would give undue deference to upwind states. Congress instead directed EPA to approve a SIP only if "it meets all of the applicable requirements" of the CAA, including the Good Neighbor Provision, to ensure that upwind states are held to account for their obligations to downwind states and other stakeholders.[185]

Petitioners argue that the CAA's cooperative federalism design would be eviscerated if EPA could independently review SIP submissions for compliance with the Good Neighbor Provision.[186] In Mississippi's words, "[t]hat would make the statute's vesting of primary authority with the states and the Supreme Court's repeated recognition of the state's discretion virtually meaningless."[187] We disagree. "[S]o long as the ultimate effect of a State's choice of emission limitations is compliance with the national standards for ambient air, the State is at liberty to adopt whatever mix of emission limitations it deems best suited to its particular situation."[188] "[I]f a SIP or a revised SIP meets the statutory criteria of the CAA, then the EPA must approve it."[189] States retain complete discretion over the "means

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[183] *Id.*

[184] *See id.*

[185] 42 U.S.C. § 7410(k)(3); *see also id.* § 7410(*l*) (directing that EPA "shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment . . . or any other applicable requirement of this chapter").

[186] *See, e.g.*, Tex. Indus. Reply Br. 8-9.

[187] Miss. Reply Br. at 5.

[188] *Texas 2016*, 829 F.3d 405, 411 (5th Cir. 2016) (quoting *Train v. Nat. Res. Def. Council, Inc.*, 421 U.S. 60, 79 (1975)).

[189] *Texas 2012*, 690 F.3d 670, 676 (5th Cir. 2012).

to achieve" the air-quality ends set by EPA.[190] EPA cannot disapprove a SIP because it believes it unwise or misguided.[191] Under 42 U.S.C. § 7410(k)(3), the sole question for EPA is whether a SIP submission "meets all of the applicable requirements of" the CAA.[192] Accordingly, under the Good Neighbor Provision, EPA must determine whether the SIP "contain[s] adequate provisions . . . prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any [NAAQS]."[193] Just as EPA cannot refuse to approve a SIP that complies with that standard, it cannot approve a SIP that is inconsistent with that standard. The EPA's authority to ascertain whether a submission contains the requisite "adequate provisions" does not undermine states' broad discretion.[194]

Louisiana contends that limiting EPA review to the presence of a reasoned explanation is the only way to make sense of this court's precedents. It asserts that our court has given EPA "substantial leeway" in approving SIPs, but this court has vacated EPA disapprovals when the agency fails to accede to a state's reasonable application of CAA

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[190] *Id.* at 675 (quoting *Bethlehem Steel Corp. v. Gorsuch*, 742 F.2d 1028, 1036 (7th Cir. 1984)).

[191] *Train*, 421 U.S. at 79.

[192] 42 U.S.C. § 7410(k)(3).

[193] *See id.* § 7410(a)(2)(D).

[194] *See id.*

directives.[195] But the decision it cites for the latter proposition, *Texas v. EPA* (*Texas 2016*),[196] is entirely consistent with our holding today.

In *Texas 2016*, Texas and other petitioners challenged EPA's disapproval of Texas's SIP submitted to satisfy the state's obligation to improve visibility on protected federal land.[197] The obligation arose under 42 U.S.C. § 7491, which directed EPA to promulgate rules requiring that certain states submit SIPs containing emissions limits "necessary to make reasonable progress toward meeting" visibility goals.[198] The statute defined "reasonable progress" in terms of several factors, including the costs of compliance and the energy impacts of compliance.[199] Pursuant to § 7491, EPA promulgated the Regional Haze Rule, which elaborated on these factors.[200] EPA disapproved Texas's SIP for two reasons: (1) "Texas incorrectly weighed the four statutory factors that govern the development of reasonable progress goals," and (2) Texas should have undertaken a "source-specific" analysis rather than a holistic analysis.[201] Granting a stay pending appeal, we held that the petitioners were likely to succeed on the merits of their challenge.[202] Rejecting EPA's first reason for disapproving the SIP, we held that "EPA must defer to Texas's goals so long as the Texas

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[195] La. Gov't Reply Br. at 7.

[196] 829 F.3d 405 (5th Cir. 2016).

[197] *Id.* at 413-15.

[198] 42 U.S.C. § 7491(b)(2).

[199] *Id.* § 7491(g)(1).

[200] *Texas 2016*, 829 F.3d at 412.

[201] *Id.* at 427-28.

[202] *Id.* at 428.

goals comply with the [CAA]."[203] Rejecting EPA's second reason, we held that "EPA's requirement . . . is not supported by the Clean Air Act or the Regional Haze Rule."[204] In other words, the petitioners were "likely to establish that EPA improperly failed to defer to Texas's application of the statutory factors and improperly required a source-specific analysis not found in the Act or Regional Haze Rule."[205]

In the present case, "EPA must defer to [a state's SIP] so long as the [the state's SIP] compl[ies] with" the Good Neighbor Provision.[206] But EPA's determination whether a SIP *does* comply with the Good Neighbor Provision is an independent one. Our construction of the CAA is consistent with *Texas 2016* and our other cases Louisiana cites.[207]

Mississippi and Texas suggest that some of our sister circuits have accepted that EPA must approve a SIP if it contains a reasoned analysis.[208] We disagree. In *North Dakota v. EPA*,[209] the Eighth Circuit rejected "the argument that EPA is required under [42 U.S.C. § 7491] to approve a [best available retrofit technology (BART)] determination that is based upon an analysis that is neither reasoned nor moored to the CAA's provisions."[210]

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[203] *Id.*

[204] *Id.*

[205] *Id.*

[206] *See id.*

[207] *See Sierra Club v. EPA*, 939 F.3d 649 (5th Cir. 2019) (reviewing EPA's approval of a SIP for arbitrariness); *BCCA Appeal Grp. v. EPA*, 355 F.3d 817 (5th Cir. 2003) (same).

[208] *See* Tex. Gov't Reply Br. at 14; Miss. Reply Br. at 5-6.

[209] 730 F.3d 750 (8th Cir. 2013).

[210] *Id.* at 761.

Addressing the same statutory provision in *Arizona ex rel. Darwin v. EPA*,[211] the Ninth Circuit explained: under § 7491, "EPA may not disapprove reasonable state determinations that comply with the relevant statutory and regulatory requirements. That is, as *ADEC* put it, EPA may not 'second guess' reasoned, legally compliant state decisions."[212] We agree with our sister circuits on these points. If a state's SIP "compl[ies] with the relevant statutory and regulatory requirements," EPA must approve it.[213] But EPA is under no obligation to approve a state's SIP that is not "legally compliant"[214]—or one that is not "moored to the CAA's provisions."[215]

Our reading of the CAA also comports with the approaches of other sister circuits. In *Oklahoma v. EPA*,[216] the Tenth Circuit rejected the argument that EPA overstepped its statutory authority when it disapproved a § 7491 BART determination for failure to comply with guidelines promulgated pursuant to a statutory directive.[217] In the court's words: "Given that the statute mandates that the EPA must ensure SIPs comply with the statute, we fail to see how the EPA would be without the authority to review BART determinations for compliance with the guidelines."[218] The D.C. Circuit, in an unpublished decision, denied a petition for review of

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[211] 815 F.3d 519 (9th Cir. 2016).

[212] *Id.* at 532 (citation omitted) (quoting *ADEC*, 540 U.S. 461, 490 (2004)).

[213] *Id.*; *see Texas 2012*, 690 F.3d 670, 676 (5th Cir. 2012) ("[I]f a SIP or a revised SIP meets the statutory criteria of the CAA, then the EPA must approve it.").

[214] *Darwin*, 815 F.3d at 532.

[215] *North Dakota*, 730 F.3d at 761.

[216] 723 F.3d 1201 (10th Cir. 2013).

[217] *Id.* at 1207.

[218] *Id.* at 1208.

EPA's disapproval of Kansas's Good-Neighbor SIP.[219] The court noted that the Good Neighbor Provision requires SIPs to "include 'adequate provisions' prohibiting in-state sources from contributing significantly to downwind nonattainment."[220] It emphasized that "EPA has the authority to determine whether SIPs comply with the statutory requirements."[221]

To reiterate, our holding today is narrow. The CAA charges EPA with the "ministerial function of reviewing SIPs for consistency with the Act's requirements."[222] Even assuming, for the sake of argument, that EPA is obligated to accept a SIP's reasonable interpretation of the Good Neighbor Provision, EPA must assess whether the submission contains "adequate provisions . . . prohibiting . . . emissions activity" that the Good Neighbor Provision forbids.[223]

IV

The petitioners contend that EPA's disapproval of Louisiana's, Texas's, and Mississippi's SIPs violated the Administrative Procedure Act and must be vacated. We must "hold unlawful and set aside agency action, findings, and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[224] "The APA's

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[219] *Westar Energy, Inc. v. EPA*, 608 F. App'x 1, 4 (D.C. Cir. 2015) (per curiam).

[220] *Id.* at 3.

[221] *Id.*

[222] *See Texas 2016*, 829 F.3d 405, 411 (5th Cir. 2016) (quoting *Luminant Generation Co. v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012)).

[223] *See* 42 U.S.C. § 7410(a)(2)(D).

[224] 5 U.S.C. § 706(2); *accord BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 824 (5th Cir. 2003). Some petitioners cite 42 U.S.C. § 7607(d)(9) as providing the standard for our review. *See* La. Indus. Br. at 17; Miss. Br. at 20. "Section 7607(d)(9), however, applies only to the 'subsection' concerning rulemaking in which it is embedded." *ADEC*, 540 U.S.

arbitrary-and-capricious standard requires that agency action be reasonable and reasonably explained."[225] "A court simply ensures that the agency has acted within a zone of reasonableness and, in particular, has reasonably considered the relevant issues and reasonably explained the decision."[226] But,

> [a]n agency rule is arbitrary and capricious "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."[227]

461, 496 n.18 (2004). So, although it governs review of "the promulgation or revision of an implementation plan by the Administrator under section 7410(c)," it does not govern review of a SIP disapproval under § 7410(k). 42 U.S.C. § 7607(d)(1). Still, because the provisions relevant to this case are identical in each section, the source of the governing standards is not consequential. *Compare* 5 U.S.C. § 706(2), *with* 42 U.S.C. § 7607(d)(9).

[225] *FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021).

[226] *Id.*; *accord Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) ("In reviewing [an agency's] explanation, we must 'consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment.'" (quoting *Bowman Transp. Inc. v. Ark.-Best Freight Sys.*, 419 U.S. 281, 285 (1974))).

[227] *Tex. Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 933 (5th Cir. 1998) (quoting *State Farm*, 463 U.S. at 43); *see also Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983) ("[A] reviewing court must remember that the Commission is making predictions, within its area of special expertise, at the frontiers of science. When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential."); *West Virginia v. EPA*, 362 F.3d 861, 871 (D.C. Cir. 2004) ("[W]e will 'give an extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise.'" (quoting *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1052 (D.C. Cir. 2001))).

A

The Louisiana and Texas petitioners argue that EPA's disapproval must be reversed for many reasons. For example, they contend that EPA unlawfully required the states to follow the agency's four-step framework,[228] unlawfully required the states to use a one-percent-of-NAAQS screening threshold,[229] and unlawfully judged the SIPs against data that did not exist when the SIPs were submitted.[230] Because we conclude that the agency lawfully disapproved Louisiana's and Texas's SIPs on their own terms, we need not address these arguments. In part (1) below, we discuss Louisiana's challenge to EPA's disapproval and discuss Texas's challenge to EPA's disapproval in part (2).

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EPA contends that it disapproved Louisiana's SIP because the submission did not meet the standards that the SIP itself said were necessary to comply with the Good Neighbor Provision. The agency emphasizes that Louisiana's modeling showed the state contributed to downwind air pollution above Louisiana's own chosen threshold.[231] EPA asserts that it disapproved Louisiana's SIP because the air-quality analyses the state performed to discount its own modeling were inadequate to support Louisiana's conclusion that it did not have Good-Neighbor obligations.[232]

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[228] *E.g.*, Tex. Indus. Br. at 35; La. Indus. Br. at 25.

[229] *E.g.*, Tex. Indus. Br. at 43; La. Gov't Reply Br. at 17.

[230] *E.g.*, Tex. Gov't Br. at 35-36; La. Gov't Reply Br. at 21.

[231] EPA Br. at 103-04.

[232] EPA Br. at 103-04.

The Louisiana petitioners principally contend that EPA arbitrarily and capriciously rejected the state's air-quality analyses.[233] We first examine Louisiana's SIP and the reasons the agency gave for disapproving it.

Louisiana's SIP used a three-step process to "determine if emissions from Louisiana contribute significantly to nonattainment or interfere with maintenance at downwind monitors in another state."[234] The three steps were: (1) "Identify monitors projected to be in nonattainment or have maintenance issues in a future year"; (2) "Identify projected nonattainment and/or maintenance monitors in other states that might be impacted by emissions from Louisiana, tagging them for further review"; (3) "Determine if emissions from Louisiana contribute significantly to nonattainment or interfere with maintenance at the monitors tagged for review in Step 2."[235] Louisiana designed this analysis to cover the first two steps of EPA's four-step framework.[236]

Louisiana elected to use a screening threshold of 1 ppb at its Step 2, rather than EPA's threshold of one percent of NAAQS (0.7 ppb).[237] Another major difference between Louisiana's approach and EPA's was their respective definitions of emissions that "contribute significantly to nonattainment . . . or interfere with maintenance" within the meaning of the

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[233] *See* La. Gov't Reply Br. at 26-33; La. Indus. Reply Br. at 20-27.

[234] LA. DEP'T OF ENV'T QUALITY, INTERSTATE TRANSPORT STATE IMPLEMENTATION PLAN: 2015 OZONE NATIONAL AMBIENT AIR QUALITY STANDARDS 11 (Nov. 8, 2019) [hereinafter LOUISIANA SIP], https://downloads.regulations.gov/EPA-R06-OAR-2021-0801-0004/attachment_1.pdf.

[235] *Id.*

[236] *Id.* at 12.

[237] *Id.*

Good Neighbor Provision.[238] Recall that EPA's approach is to identify these emissions by undertaking "a multifactor assessment of potential emissions controls" after screening out *de minimis* contributions at Steps 1 and 2.[239] Louisiana, however, explained that its "contribution should be deemed 'significant' only if there is a persistent and consistent pattern of contribution on several days with elevated ozone."[240]

Applying its analysis, Louisiana identified five nonattainment and maintenance receptors to which it projected a contribution at or above the 1 ppb threshold, all of which were in Texas.[241] The lowest of these modeled contributions was 1.71 ppb and the highest was 4.72 ppb.[242] Louisiana nevertheless discounted these projected contributions. It explained: "While Louisiana contributes to the monitors outlined in the Dallas and Houston areas, an analysis of back trajectory of air parcel movement and a review of the EPA modeling of interstate impact on air monitors indicates the contribution by Louisiana to exceedances at Texas monitors is insignificant."[243] Accordingly, Louisiana's SIP did not include any new emissions control strategies.[244]

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[238] 42 U.S.C. § 7410(a)(2)(D)(i)(I).

[239] Disapproval, 88 Fed. Reg. 9336, 9342, 9371 (Feb. 13, 2023); *see also EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 518-20 (2014) (accepting this interpretation as a permissible construction of the Good Neighbor Provision).

[240] LOUISIANA SIP, *supra* note 234, at 12 (emphasis omitted).

[241] *Id.* at 13.

[242] *Id.*

[243] *Id.*

[244] *Id.* at 15-16.

EPA disapproved Louisiana's SIP.[245] Among other deficiencies, "EPA also found technical flaws in Louisiana's 'consistent and persistent' claims, assessment of seasonal weather patterns, surface wind directions, and back trajectory analysis."[246] The agency's explanation on this point was more detailed in its proposed disapproval, which provided the disapproval's "full basis."[247] There, EPA proposed disapproving Louisiana's SIP because it did not

> complete an analysis similar to the EPA's [Step 3 analysis] (or an alternative approach to defining "significance" that comports with CAA requirements) to determine whether, and to what degree, emissions from a state should be "prohibited" to eliminate emissions that will "contribute significantly to nonattainment, or interfere with maintenance of" the NAAQS in any other state.[248]

"Instead," EPA continued, Louisiana "interpreted the Act's requirements as only requiring an analysis of emission reductions where there was a 'consistent and persistent' pattern of contribution and conducted an air-quality-only analysis in order to refute such a pattern."[249]

EPA rejected the assertion that Louisiana's analysis showed that the state had no Good-Neighbor obligations. EPA said:

> [Louisiana] asserted that its linkages to Texas do not warrant further analysis because, according to [Louisiana], emissions from Louisiana do not persistently and consistently contribute

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[245] Disapproval, 88 Fed. Reg. 9336, 9356 (Feb. 13, 2023).

[246] *Id.*

[247] *Id.* at 9354; *see* AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9811-16 (Feb. 22, 2022).

[248] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9814.

[249] *Id.*

> on several days of elevated ozone. However, the EPA modeling that [Louisiana] relied upon to demonstrate linkages in the first instance already establishes that there is a consistent and persistent pattern of contribution from Louisiana to Texas receptors on elevated ozone days.[250]

In other words, EPA explained that the linkages Louisiana modeled at its Steps 1 and 2 demonstrated that the state persistently and consistently contributed to Texas ozone issues on high-ozone days. The agency further elaborated on why a modeled linkage denotes a persistent and consistent contribution on high-ozone days:

> The EPA's methodology for projecting future year ozone concentrations accounts for precisely these concerns—the relative response factor that is applied to historic monitored data to generate projections is calculated by looking only at days with elevated ozone levels. The EPA notes that monitored attainment with the ozone standard is determined by averaging the fourth high value recorded each year for three years. So, the EPA believes it is important to estimate impacts on the days with highest projected ozone levels. The days chosen to analyze the future impacts are chosen initially by . . . selecting the 10 highest days in the base period modeling that are projected to be above 65 ppb in the base period. If there are not 10 days above 65 ppb at a potential receptor, the number of days above 65 ppb are used so long as there is at least five days above 65 ppb in the base period. If the air quality modeling shows fewer than five days above 65 ppb in the base period, then the data for impacts at that receptor in 2023 are not calculated. The base and future year modeling for these 5-10 days are then used to project 2023 ozone [design values] to determine whether it is projected to be a nonattainment or maintenance receptor in 2023. For these same 5-10 days

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[250] *Id.*

> identified, the future year modeling provides the estimated daily contribution at a potential receptor's future year daily [maximum daily average 8-hour ozone] and these daily contributions are averaged for the 5-10 days to result in the average contribution from the upwind area.[251]

EPA then assessed the analyses Louisiana conducted that led the state to conclude, despite the modeled linkages, that it did not persistently and consistently contribute to Texas ozone issues. For Louisiana's principal analysis, the state performed ninety-nine back trajectories for the linked monitors in the years 2016, 2017, and 2018.[252] Back trajectories, generated via a model called HYSPLIT, "use archived meteorological modeling that includes actual observed data . . . and modeled meteorological fields to estimate the most likely route of an air parcel transported to a receptor at a specified time"; "[t]he method essentially follows a parcel of air backward in hourly steps for a specified length of time."[253] Louisiana noted that of those ninety-nine trajectories, approximately 28% travel in or through Louisiana and 8% originate in Louisiana.[254] The state further elaborated that "[t]rajectories originating in and crossing Louisiana in northern and central Louisiana are rural/farmland with limited population and sources of precursor pollutants. Trajectories originating in and crossing south Louisiana are heavy industrial and it is highly probable that transport adds to the ozone mix."[255]

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[251] *Id.* at 9814-15 (footnote omitted).

[252] LOUISIANA SIP, *supra* note 234, at 13.

[253] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9815.

[254] LOUISIANA SIP, *supra* note 234, at 13.

[255] *Id.* at 14.

EPA concluded that this back trajectory analysis "did not provide evidence that was contrary to the conclusions of the EPA's photochemical modeling analyses" used by Louisiana.[256] EPA explained that because "the back trajectory calculations do not account for any air pollution formation, dispersion, transformation, or removal processes as influenced by emissions, chemistry, deposition, etc., the trajectories cannot be used to develop quantitative contributions."[257] In the agency's view, "back trajectories cannot be used to quantitatively evaluate the magnitude of the existing photochemical contributions from upwind states to downwind receptors."[258] Focusing on Louisiana's back trajectory analysis, EPA said that Louisiana "proffered that some of these back trajectories did not pass directly over areas with emissions but did not consider that the back trajectories only represent a centerline and there are areas on either side of the centerline that would be contributing areas."[259] The upshot of Louisiana's analysis, in the agency's view, was that it "confirmed that Louisiana is an upwind area for the receptors in Texas often enough to potentially contribute to nonattainment or interfere with maintenance."[260]

Louisiana's SIP also discussed weather patterns surrounding the Texas monitors. It observed that "[g]lobal pressure systems create wind for Texas during the ozone season . . . that mostly comes from the Gulf of Mexico until near the end of the ozone season where the state receives wind

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[256] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9815.

[257] *Id.*

[258] *Id.*

[259] *Id.*

[260] *Id.*

from the north."[261] The state relied on air trajectory models and surface and upper air maps to conclude "that these conditions were also true for the 2011 ozone season," and further relied on wind roses to conclude "that these patterns are consistent with other years."[262] Based on the wind roses for the eastern half of Texas and southwestern Louisiana, the state also concluded that "a predominantly southern wind impacts these areas for the majority of the year, and gives way only occasionally to a northern wind."[263]

EPA rejected the utility of observations about "large-scale weather patterns as they relate to commonly observed wind directions rather than weather patterns and conditions that are specifically conducive to ozone formation or tied to specific days when high ozone was monitored in the downwind areas."[264] In the agency's view, "[g]eneral weather pattern discussions that are not associated with specific ozone episodes are not generally informative of interstate transport decisions."[265] EPA explained that "[i]t is necessary to investigate specific instances of high ozone, because as discussed previously, violations of the ozone standard can be driven by as few as 4 days per year because the compliance with the standard is evaluated based on the average of the fourth high value measured each of three consecutive years."[266]

As for Louisiana's reliance on wind roses, EPA remarked that "the analysis does not address transport winds between Louisiana and the Texas

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[261] LOUISIANA SIP, *supra* note 234, at 17.

[262] *Id.*

[263] *Id.*

[264] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9815.

[265] *Id.*

[266] *Id.*

areas with receptors on high ozone days at the identified receptors."[267] The agency identified four additional "limitations" with the wind rose analysis.[268] First, "[w]ind directions measured at the surface are not necessarily good indicators of the wind direction occurring at higher elevations, which tend to have a stronger influence on interstate ozone transport."[269] Second, "wind directions change spatially over the range of distance involved in transport from Louisiana to Texas."[270] Third, "wind directions change temporally over the range of time involved in ozone transport from Louisiana to Texas."[271] Fourth, "the wind roses are based on wind data measured throughout the year, not just during either ozone season or monitored ozone episode days," meaning that they do not "provide information directly pertinent to when ozone is high at areas in Texas and whether Louisiana is a contributing area during those specific times."[272]

EPA summed up its discussion of Louisiana's SIP on its own merits. "As to Louisiana's conclusion that the impacts from Louisiana's emissions are not persistent," the agency explained, "the contribution analysis is the average impact for at least 5 days and up to 10 days for the 2016 base period which is sufficiently persistent considering the first through fourth high monitored values set the monitored [design value]."[273] The agency emphasized that under the 2011 base year modeling used by Louisiana, as well

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[267] *Id.*

[268] *Id.*

[269] *Id.*

[270] *Id.*

[271] *Id.*

[272] *Id.*

[273] *Id.* at 9816.

as more recent modeling, "Louisiana's emissions were substantial enough to generate linkages at Steps 1 and 2 to at least some set of downwind receptors, under varying assumptions and meteorological conditions, even if the precise set of linkages changed between modeling runs."[274] Concluding that Louisiana had Good-Neighbor obligations under the state's own interpretation of the Good Neighbor provision, EPA disapproved the SIP.[275]

The Louisiana petitioners advance several arguments why, in their view, EPA's disapproval of the SIP's analysis was arbitrary and capricious. Louisiana contends that the agency dismissed the SIP's back trajectory, weather pattern, and wind rose analyses without seriously considering them.[276] We disagree. As our discussion above shows, EPA did point to aspects of the state's analysis that the agency considered to be technically flawed. EPA individually discussed Louisiana's back trajectory, weather pattern, and wind rose analyses and explained why it concluded that those analyses did not support the SIP's conclusion.[277] Although the state may not agree with EPA's assessment, we cannot say that the agency's reasoning reflects that it failed to "reasonably consider[]" the SIP's analyses.[278]

The Louisiana petitioners next argue that EPA arbitrarily and capriciously rejected the SIP's back trajectory analysis. Louisiana objects that EPA was wrong when the agency claimed that Louisiana did not consider that areas on either side of the back trajectory centerline could

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[274] *Id.*

[275] *See id.* at 9814-16; Disapproval, 88 Fed. Reg. 9336, 9356 (Feb. 13, 2023).

[276] La. Gov't Br. at 58-59.

[277] *See* AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9814-16.

[278] *See FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021).

contribute to downwind pollution.[279] The state contends that the SIP categorized trajectories by whether they crossed south Louisiana as opposed to north or central Louisiana—the reason being that only south Louisiana has significant emissions sources.[280] In Louisiana's view, EPA's conclusion on this score was arbitrary and capricious because it ran "counter to the evidence before the agency."[281] The Louisiana industry petitioners raise this same argument.[282]

The discussion to which the Louisiana petitioners refer consists of two paragraphs in the state's SIP. In full, that discussion says:

> Of the 99-exceedence trajectories performed, approximately 28% of the trajectories travel in or through Louisiana. Only eight percent of those trajectories originate in Louisiana. The areas in northern Louisiana are rural/farmland with limited precursor pollutants; however, the areas in south Louisiana are heavy industrial and it is highly probable that transport adds to the ozone mix.
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> . . .
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> Trajectories originating in and crossing Louisiana in northern and central Louisiana are rural/farmland with limited population and sources of precursor pollutants. Trajectories originating in and crossing south Louisiana are heavy industrial and it is highly probable that transport adds to the ozone mix.

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[279] La. Gov't Br. at 59-60.

[280] La. Gov't Br. at 59-60.

[281] *See Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); La. Gov't Br. at 60.

[282] La. Indus. Br. at 47-48.

> Only 35 percent of the trajectories originate in or cross south Louisiana.[283]

EPA responded: Louisiana "proffered that some of these back trajectories did not pass directly over areas with emissions but did not consider that the back trajectories only represent a centerline and there are areas on either side of the centerline that would be contributing areas."[284]

EPA's conclusion did not run "counter to the evidence" before it. Nor was EPA's conclusion "so implausible that it could not be ascribed to . . . the product of agency expertise."[285] Louisiana's SIP identifies trajectories "originating in" or "crossing" certain parts of the state. It does not discuss whether the trajectory centerlines pass "relatively near emission source areas," which EPA expressed was sufficient "for those areas to contribute to concentrations at the trajectory endpoint."[286] More fundamentally, EPA concluded that Louisiana's back trajectory analysis "did not provide evidence that was contrary to the conclusions of the EPA's photochemical modeling analyses" on which the state based its SIP.[287] The agency noted that the modeling Louisiana used "showed that on high ozone days in Texas at the receptors identified" by the modeling, "28% of the trajectories passed through Louisiana."[288] Louisiana's SIP explained that "35 percent of the trajectories originate in or cross south Louisiana," which

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[283] LOUISIANA SIP, *supra* note 234, at 13-14.

[284] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9815 (Feb. 22, 2022).

[285] *State Farm*, 463 U.S. at 43.

[286] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9815.

[287] *Id.*

[288] *Id.*

the state described as "heavy industrial."[289] In the agency's view, this "trajectory analysis confirmed that Louisiana is an upwind area for the receptors in Texas often enough to potentially contribute to nonattainment or interfere with maintenance."[290] Because the trajectory analysis confirmed Louisiana "potentially contribute[d]," the trajectory analysis did not refute the fact that Louisiana's own photochemical modeling showed at Louisiana's Step 2 that the state often contributed well above the state's screening threshold for projected high-ozone days. We see nothing unreasonable in this conclusion.

Louisiana objects that this analysis misses the state's "key argument": that it is not enough to demonstrate Good-Neighbor obligations when air comes from high-emissions areas in Louisiana on only 10% of high-ozone days.[291] The state's SIP did not include the 10% figure as such. In its brief, Louisiana calculates that (1) 28% of its back trajectories traveled in or through Louisiana, and (2) only 35% of those trajectories originated in or crossed south Louisiana—therefore, approximately 10% of the trajectories originated in or crossed through south Louisiana.[292]

Again, EPA explained the technical limitations of the back trajectory analysis as well as what the trajectory analysis did and did not show and why Louisiana's reliance on it was unwarranted. For example, EPA acknowledged that Louisiana identified that "some of these back trajectories did not pass directly over areas with emissions."[293] But the agency

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[289] LOUISIANA SIP, *supra* note 234, at 13-14.

[290] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9815.

[291] La. Gov't Reply Br. at 29.

[292] La. Gov't Br. at 16.

[293] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9815.

nevertheless concluded that the state's analysis "confirmed that Louisiana is an upwind area for the receptors in Texas often enough to potentially contribute to nonattainment or interfere with maintenance."[294] EPA did not fail to "reasonably consider[] the relevant issues."[295]

Louisiana also disputes EPA's conclusion that the state's back trajectory analysis confirmed the state's contributions to Texas receptors.[296] Louisiana stresses that the Good Neighbor Provision imposes obligations on upwind states when the state's sources or emissions activity "will" contribute significantly to nonattainment or interfere with maintenance.[297] The state argues that it is irrelevant whether it "potentially contribute[s]" to Texas receptors.[298] Louisiana asserts that its analysis showed that its modeled contributions to Texas receptors are *de minimis*, so EPA's conclusion does not follow from its reasoning.[299]

As mentioned, EPA explained that it considers back trajectory analysis "to examine the general plausibility of the photochemical model 'linkages.'"[300] But the agency emphasized that because of limitations in the modeling, back trajectories "cannot be used to quantitatively evaluate the magnitude of the existing photochemical contributions from upwind states to

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[294] *Id.*

[295] *See FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021).

[296] La. Gov't Br. at 66-67.

[297] *See* 42 U.S.C. § 7410(a)(2)(D); La. Gov't Br. at 66-67.

[298] La. Gov't Br. at 67.

[299] La. Gov't Br. at 67; La. Gov't Reply Br. at 30.

[300] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9815 (Feb. 22, 2022).

downwind receptors."[301] In other words, the trajectory analysis cannot demonstrate that contributions are in *de minimis* quantities. Therefore, EPA concluded that Louisiana's back trajectory analysis "did not provide evidence that was contrary to the conclusions of" the modeling the state used.[302] Instead, the analysis showed that the linkages to Texas receptors were plausible; it "confirmed that Louisiana is an upwind area for the receptors in Texas often enough to potentially contribute to nonattainment or interfere with maintenance."[303] We see nothing unreasonable in the agency's explanation.

On a slightly different tack, Louisiana suggests that EPA's rejection of the state's back trajectories amounts to an "[u]nexplained inconsistency" with the agency's lauding back trajectory analysis elsewhere.[304] The state refers principally to *Mississippi Commission on Environmental Quality v. EPA*,[305] in which the D.C. Circuit discussed EPA's use of HYSPLIT analysis in the agency's assessment of nonattainment-receptor designations.[306] The court identified that EPA had defended HYSPLIT modeling "as an 'excellent tool[]' that it generally 'prefer[s] over more basic assessments of wind speed and direction.'"[307] In that case, Texas proffered source-apportionment modeling to refute that a Texas county was not in

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[301] *Id.*

[302] *Id.*

[303] *Id.*

[304] *See Encino Motorcars, LLC v. Navarro*, 579 U.S. 211, 222 (2016) (quoting *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005)); La. Gov't Br. at 64-65.

[305] 790 F.3d 138 (D.C. Cir. 2015) (per curiam).

[306] *Id.* at 165-66.

[307] *Id.* at 167.

attainment with the relevant NAAQS.[308] EPA identified two flaws in Texas's modeling, and, amending the model to eliminate those flaws, "concluded that it in fact *supported*" the conclusion reached by the agency's HYSPLIT modeling.[309] Louisiana identifies other statements EPA has made elsewhere, including in EPA's comments on Louisiana's SIP, supporting the value of HYSPLIT modeling.[310] In Louisiana's view, this contradicts "EPA's arguments that source-apportionment modeling can be the only method to determine significant contribution."[311] The Louisiana industry petitioners similarly argue that EPA did not explain why the state's back trajectory analysis cannot be relied on as part of a multifactor analysis.[312]

EPA never suggested that back trajectory analyses are unhelpful or unreliable; that source-apportionment modeling is the sole way that states may evaluate their contributions; or that back trajectory analyses cannot be considered as part of a multifactor analysis. The agency did explain that "[p]hotochemical modeling is the most sophisticated tool available to estimate future ozone levels and contributions to those future ozone levels."[313] But EPA also explained that it "relies on back trajectory analysis as a corollary analysis along with observation-based meteorological wind fields at multiple heights to examine the general plausibility of the photochemical model 'linkages.'"[314] EPA did not reject Louisiana's

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[308] *Id.* at 165-67.

[309] *Id.* at 167-68.

[310] La. Gov't Br. at 62-64.

[311] La. Gov't Reply Br. at 27-28.

[312] La. Indus. Br. at 47-48.

[313] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9815 (Feb. 22, 2022).

[314] *Id.*

analysis because HYSPLIT modeling is inferior to photochemical source-apportionment modeling. Instead, the agency acknowledged a limitation of HYSPLIT modeling—that it "cannot be used to develop quantitative contributions"—and concluded that Louisiana's back trajectory analysis "confirmed that Louisiana is an upwind area for the receptors in Texas often enough to potentially contribute to nonattainment or interfere with maintenance."[315]

Finally, the Louisiana industry petitioners identify a portion of the state's SIP showing that ozone and ozone precursor trends decreased through 2017.[316] That portion appeared in the SIP's section discussing ozone, not in the section analyzing the state's potential Good-Neighbor obligations.[317] The Louisiana industry petitioners contend that the purpose of this information was "to show that the decline in [design values] was associated with the significant reductions in emissions within Louisiana over the relevant time period."[318] In their view, this data demonstrates that the state had control over its emissions and undercuts the modeled linkages to Texas receptors.[319]

The Louisiana Chemical Association raised this data in a comment responding to EPA's proposed disapproval of Louisiana's SIP.[320] EPA responded that it "disagrees that the overall emissions trends or the lack of

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[315] *Id.*

[316] LOUISIANA SIP, *supra* note 234, at 7-10.

[317] *Id.*

[318] La. Indus. Br. at 33-34.

[319] La. Indus. Reply Br. at 21-23.

[320] EPA, 2015 Ozone NAAQS Interstate Transport SIP Disapprovals–Response to Comment (RTC) Document 340, https://downloads.regulations.gov/EPA-HQ-OAR-2021-0663-0083/content.pdf.

nonattainment areas in a state, alone, can serve as an adequate basis for determining whether a state contributes significantly to downwind receptors in other states."[321] The agency acknowledged "that all areas in Louisiana are currently in attainment for the 2015 ozone NAAQS and it may be the case that overall anthropogenic ozone-precursor emissions trends decreased from 2014 and 2017 in the state."[322] But EPA explained that these trends do not establish "that continuing emissions from Louisiana are not significantly contributing to nonattainment or interfering with maintenance in other states."[323] This conclusion was not unreasonable, especially given that the Louisiana SIP did not rely on emissions trends to reach its conclusion that the state did not have Good-Neighbor obligations.

In sum, EPA concluded that under the data and interpretation of the Good Neighbor Provision used by Louisiana, the state had Good-Neighbor obligations that it did not address. The Louisiana petitioners have not demonstrated that the agency's consequent disapproval was arbitrary, capricious, or contrary to law.

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EPA contends that it disapproved Texas's SIP because the submission, on its own terms, did not comply with the Good Neighbor Provision. EPA asserts its disapproval was based on the failure of the Texas SIP to impose emissions limitations even though Texas's own interpretation showed that Texas emissions contributed significantly downwind.[324]

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[321] *Id.* at 341.

[322] *Id.*

[323] *Id.*

[324] EPA Br. at 147-51.

Texas objects that EPA's litigation position is a "*post hoc* rationalization[]" that does not comport with "the reasoning 'articulated by the agency itself.'"[325] On its view, EPA's alleged legal errors permeated the agency's appraisal of Texas's SIP, so the disapproval cannot stand solely on EPA's assessment of Texas's own data.[326]

Texas's SIP used a three-step process to determine whether "emissions from Texas contribute significantly to nonattainment or interfere with maintenance at downwind monitors in another state."[327] At Step 1, Texas identified "monitors projected to be in nonattainment or have maintenance issues in a future year."[328] At Step 2, Texas identified "projected nonattainment and/or maintenance monitors in other states that might be impacted by emissions from Texas, tagging them for further review."[329] Finally, at Step 3, Texas determined "if emissions from Texas contribute significantly to nonattainment or interfere with maintenance at the monitors tagged for review in Step 2."[330] Texas asserted that its three-step process is meant to cover the first two steps of EPA's four-step

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[325] *See Data Mktg. P'ship, LP v. U.S. Dep't of Lab.*, 45 F.4th 846, 856 (5th Cir. 2022) (quoting *Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 50 (1983)); Tex. Gov't Reply Br. at 10.

[326] Tex. Gov't Reply Br. at 9-10.

[327] Tex. Comm'n on Env't Quality, Federal Clean Air Act, Sections 110(a)(1) and (2) Transport State Implementation Plan Revision for the 2015 Ozone National Ambient Air Quality Standards 3-1 (Aug. 8, 2018) [hereinafter Texas SIP], https://www.regulations.gov/document/EPA-R06-OAR-2021-0801-0006.

[328] *Id.*

[329] *Id.*

[330] *Id.*

framework: Step 1 is the same for both approaches, and Texas's second and third steps "together are equivalent to step [2] of the EPA's framework."[331]

Despite these similarities, Texas's approach differed from EPA's in significant ways. Among other differences, Texas conducted its own photochemical modeling rather than using EPA's, and Texas used a base year of 2012 for that modeling instead of EPA's use of 2011.[332]

Texas interpreted the Good Neighbor Provision the same way as Louisiana. It explained that its contribution to downwind nonattainment and maintenance receptors would be "deemed 'significant' only if there [were] a persistent and consistent pattern of contribution on several days with elevated ozone."[333]

Applying its analysis, Texas identified over a dozen nonattainment or maintenance receptors to which it projected a contribution above its chosen *de minimis* threshold.[334] These receptors were located in Arizona, California, and Colorado.[335] Texas then used "a weight-of-evidence approach" to "determine whether Texas emissions significantly contribute to nonattainment or interfere with maintenance at the sixteen downwind monitors that were tagged for further review in Step 2."[336] Texas's weight-of-evidence approach considered a number of factors receptor by receptor. "Examples of factors considered include the current attainment status of the

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[331] *Id.* at 3-2.

[332] *Id.* at 3-3; AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9825 (Feb. 22, 2022).

[333] TEXAS SIP, *supra* note 327, at 3-50 to -51 (emphasis omitted).

[334] *Id.* at 3-47 to -48.

[335] *Id.*

[336] *Id.* at 3-50.

monitors, design value trends, the meteorological conditions that lead to high ozone formation at the monitor, and the number of days with elevated ozone (observed and modeled)."[337] Texas concluded that its emissions "do not contribute significantly to nonattainment or interfere with maintenance of the . . . NAAQS at any downwind monitors."[338] Accordingly, the SIP did not include any new emissions reductions.[339]

EPA disapproved Texas's SIP.[340] EPA concluded that, among other deficiencies, the agency "found technical flaws in Texas's arguments related to 'consistent and persistent' claims and its other assessments, including analysis of back trajectories."[341] The EPA elaborated on the full basis for the disapproval in the proposed disapproval.[342] There, the agency proffered the same objection as for Louisiana's SIP: Texas's SIP did not, according to the EPA,

> complete something similar to the EPA's [Step 3] analysis (or an alternative approach to defining "significance" that comports with the statute's objectives) to determine whether and to what degree emissions from a state should be "prohibited" to eliminate emissions that will "contribute significantly to nonattainment in, or interfere with maintenance of" the NAAQS in any other state.[343]

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[337] *Id.*

[338] *Id.* at 3-75.

[339] *See* Disapproval, 88 Fed. Reg. 9336, 9360 (Feb. 13, 2023).

[340] *Id.*

[341] *Id.*

[342] *See id.* at 9354.

[343] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9831 (Feb. 22, 2022).

EPA observed that, instead, Texas "interpreted the Act's requirements as only requiring an analysis of emission reductions where 'there is a persistent and consistent pattern of contribution on several days with elevated ozone.'"[344]

EPA rejected the assertion that Texas's analysis showed that the state had no Good-Neighbor obligations under that interpretation. EPA said:

> Although Texas asserted that its additional air quality factor analysis is a permissible way to interpret which contributions are "significant" because that analysis examines whether there was a "persistent and consistent pattern of contribution on several days with elevated ozone[,]" we find that such pattern is already established by a modeled linkage at Step 2.[345]

EPA further assessed each of the seven factors on which Texas relied. First, Texas used design value trends to predict that there would be decreases in ozone levels by 2023.[346] EPA concluded "that the provided information does not support the large decreases in ozone levels that [Texas]'s modeling projects."[347] Relying on its own modeling, EPA elaborated that Texas's "analysis for California and Colorado receptors provides evidence that [Texas]'s photochemical modeling is overestimating the ozone reductions expected at these receptors between 2012 and 2023 and actually presents evidence that more nonattainment and/or maintenance receptors should have been identified."[348]

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[344] *Id.* at 9831-32.

[345] *Id.* at 9833.

[346] *See* TEXAS SIP, *supra* note 327, at 3-39 to -43, 3-46 to -47; AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9832.

[347] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9832.

[348] *Id.*

Second, Texas looked at the number of monitored days when ozone levels exceeded the 70 ppb NAAQS threshold at linked monitors in Colorado in the previous ten years and at linked monitors in California in the previous five years.[349] Texas noted that "[t]rends in elevated ozone days overall appear to be decreasing" at the linked monitors in Colorado and "[t]rends in elevated ozone days overall appear to be flat" at the linked monitors in California.[350] EPA responded that "[w]hile this data supports that the number of ozone exceedance days is improving, neither the analysis of the number of high ozone days in Colorado or California provide any evidence to refute [Texas]'s photochemical modeling results that show these areas should be considered nonattainment and/or maintenance receptors."[351] EPA emphasized that, as compared to its own modeling, Texas's "modeling overestimates ozone reductions yet still shows Texas linked to receptors at both nonattainment and maintenance levels in 2023."[352]

Third, Texas performed back trajectory analysis to model whether air parcels at linked monitors came from Texas on days when ozone was monitored to exceed the NAAQS.[353] With respect to the linked monitors in Colorado, Texas looked at "trajectories during elevated ozone episodes, that start within Colorado's mixing layer, that do not hit the surface, and that have

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[349] TEXAS SIP, *supra* note 327, at 3-52 to -53, 3-70.

[350] *Id.* at 3-52, 3-70.

[351] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9832.

[352] *Id.*

[353] TEXAS SIP, *supra* note 327, at 3-53 to -58, 3-70 to -73.

endpoints within Texas' mixing layer[354]" in order to "find a clear case where emissions in Texas would affect the ozone in Colorado."[355] Texas found:

> Those filters showed that 6% of elevated ozone days in Colorado had trajectories that reached the mixing layer in Texas. Further analysis of the trajectories by year showed that 66% of days where trajectories reached the Texas mixing layer occurred in 2011 and 2012. There are many years where no trajectories reach Texas from Colorado. In the years where no trajectories reached Texas, the tagged monitors still observed a high number of elevated ozone days and fourth-highest eight-hour ozone concentrations above 70 ppb.[356]

From this, Texas concluded that "[a]lthough air from Texas can reach Colorado, the air from Texas does not appear to significantly affect the ozone concentrations."[357] Texas undertook a similar analysis with respect to the linked California receptors.[358]

EPA discussed this analysis at length. EPA noted that the agency had

> several concerns with how [Texas] performed the back trajectories including start time and heights, length (number of hours) of the back trajectory, inappropriate removal of some back trajectories based on start height, center-line height touch down, and trajectory center-line height when over Texas, and inappropriate counting of trajectories by not considering that

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[354] Texas explained: "It is important to know which endpoints are located within the mixing layer because an endpoint in the mixing layer would demonstrate a clearer case of emissions at that location being transported to the starting location." *Id.* at 3-54.

[355] *Id.* at 3-57 to -58.

[356] *Id.* at 3-58.

[357] *Id.*

[358] *Id.* at 3-73.

> the center-line represents the centerline of a much wider area of air parcels that could have reached the monitor/receptor.[359]

"Due to these concerns," EPA continued, it found "the results of [Texas]'s back trajectory and endpoint analysis flawed (underestimates back trajectories that reach Texas) and do not provide evidence that refutes the [Texas] photochemical modeling analysis results" that showed linked receptors.[360] EPA elaborated, explaining that "even valid back trajectories are of limited use" because they "simply estimate[] the path a parcel of air backward in hourly steps for a specified length of time."[361] The back trajectory model, HYSPLIT, "estimates the central path in both the vertical and horizontal planes. The HYSPLIT central path represents the centerline with the understanding that there are areas on each side horizontally and vertically that also contribute to the concentrations at the end point."[362] Because "[t]he horizontal and vertical areas that potentially contribute to concentrations at the endpoint (monitor) grow wider from the centerline the further back in time the trajectory goes," EPA emphasized that "a HYSPLIT centerline does not have to pass directly over emissions sources or emission source areas, but merely relatively near emission source areas for those areas, to contribute to concentrations at the trajectory endpoint."[363]

EPA noted that it "relies on back trajectory analysis as a corollary analysis along with observation-based meteorological wind fields at multiple

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[359] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9832 (Feb. 22, 2022).

[360] *Id.*

[361] *Id.*

[362] *Id.*

[363] *Id.*

heights to examine the general plausibility of the photochemical model 'linkages.'"[364] But "[s]ince the back trajectory calculations do not account for any air pollution formation, dispersion, transformation, or removal processes as influenced by emissions, chemistry, deposition, etc., the trajectories cannot be used to develop quantitative contributions."[365] "Therefore," in EPA's view, "back trajectories cannot be used to quantitatively evaluate the magnitude of the existing photochemical contributions from upwind states to downwind receptors."[366]

Fourth, Texas modeled its average contributions to linked receptors on days in the (then future) year 2023 when the receptors were projected to measure ozone concentrations above 70 ppb.[367] For the Colorado receptors, Texas projected that its average contribution would be between 0.71% and 1.21% of the ozone concentration.[368] For the California receptors, Texas projected an average contribution between 0.00% and 0.73%.[369] Texas therefore concluded that its "expected impact is not significant."[370] Critiquing Texas's analysis, EPA noted that its technique for evaluating a state's projected contribution focuses on the five to ten days in 2023 with the highest projected ozone concentration, whereas Texas used every day projected to be above 70 ppb.[371] In EPA's view, "this meant many more days

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[364] *Id.* at 9832-33.

[365] *Id.* at 9833.

[366] *Id.*

[367] TEXAS SIP, *supra* note 327, at 3-52.

[368] *Id.* at 3-58.

[369] *Id.* at 3-74.

[370] *Id.* at 3-59.

[371] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9833.

could be included in the average which had the effect of showing a smaller estimated contribution."[372] EPA expressed that it believed "it is appropriate to focus on the highest values as these are the ones that ultimately will have to be reduced for the [NAAQS] standard to be attained."[373] EPA concluded: "EPA's review of [Texas]'s alternate contribution method analysis for California and Colorado receptors is that it does not provide substantial evidence that refutes [Texas]'s photochemical modeling analysis results."[374]

Fifth, Texas evaluated the collective ozone contribution from all upwind states to the monitors to which Texas was linked.[375] For the Colorado receptors, Texas assessed that the total interstate contributions ranged from 9.32% to 10.27% of the total ozone concentrations.[376] For the California receptors, the range was between 3.20% and 4.58%.[377] Texas asserted that this factor supported "the conclusion that interstate transport does not contribute significantly to nonattainment at these monitors."[378]

EPA made two responses. First: "As an initial matter, the EPA is not solely relying on [Texas]'s findings of linkages to Colorado and California but is also relying on its own findings of linkages to areas in the Midwest Region."[379] Accordingly, EPA stated that Texas's "analysis of relative

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[372] *Id.*

[373] *Id.*

[374] *Id.*

[375] TEXAS SIP, *supra* note 327, at 3-59.

[376] *Id.* at 3-60.

[377] *Id.* at 3-75.

[378] *Id.*

[379] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9833.

contributions to Colorado and California does not provide justification for not addressing downwind impacts."[380] EPA also concluded:

> Nonetheless, EPA has found in the past that certain California receptors are so heavily impacted by local emissions, and total upwind contribution is so low, that those receptors may not be considered to be affected by interstate ozone transport. However, this is a narrow circumstance that does not apply in the vast majority of cases and has never been applied outside of California. EPA has previously found, for instance, that receptors in Colorado are heavily impacted by upwind-state contribution. . . . EPA affirms, contrary to [Texas]'s suggestion, that the Colorado receptors [Texas] analyzed are impacted by upwind state contributions.[381]

Sixth, Texas used a Direct Decoupled Method (DDM) analysis as another way to evaluate its contributions to its linked Colorado receptors.[382] Texas explained that DDM "is a probing tool . . . that estimates the responsiveness of ozone formation to small changes in any input parameter."[383] For its analysis, Texas examined the responsiveness of ozone formation at the linked Colorado monitors to changes in Texas emissions of ozone precursors.[384] It concluded that although the DDM analysis exhibited "a limited responsiveness," "the instances where this occurs are infrequent and rarely coincide with" ozone concentration exceeding 70 ppb.[385] Evaluating this analysis, EPA noted that "[t]he DDM modeling does show

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[380] *Id.*

[381] *Id.* (citations omitted).

[382] TEXAS SIP, *supra* note 327, at 3-60 to -67.

[383] *Id.* at 3-60.

[384] *Id.* at 3-60 to -61.

[385] *Id.* at 3-66.

some response to Texas [ozone-precursor] emissions but from the scale it is hard to discern the level of response."[386] Still, EPA explained that "the results of the DDM tool showing only a relatively small response to reductions is not inconsistent with the finding that Texas emissions contribute significantly to elevated readings in Colorado."[387]

Seventh and finally, with respect to the California receptors, Texas took into account the "persistent nonattainment issues" caused by the topological and meteorological features of southern California.[388] In EPA's view, "this information does not refute [Texas]'s modeling" because "photochemical modeling is the most sophisticated tool available to estimate future ozone levels."[389]

In light of its discussion of the factors assessed by Texas, EPA summed up its explanation of why it was rejecting the claim that Texas lacked Good-Neighbor obligations:

> Overall, these additional analyses performed by [Texas] do not provide sufficient evidence to refute the modeling results that [Texas]'s modeling indicates downwind nonattainment and/or maintenance receptors in Colorado and Southern California are impacted by Texas emissions and Texas' contribution is 0.7 ppb or greater. In fact, the monitored ozone design value trends provide evidence that future year modeled ozone levels are underestimated by [Texas]'s modeling and there are likely more receptors that should have been identified with additional potential linkages. Although Texas asserted that its additional air quality factor analysis is a permissible way to interpret

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[386] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9833.

[387] *Id.*

[388] TEXAS SIP, *supra* note 327, at 3-68.

[389] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9832.

> which contributions are "significant" because that analysis examines whether there was a "persistent and consistent pattern of contribution on several days with elevated ozone" we find that such pattern is already established by a modeled linkage at Step 2.[390]

Then, after discussing linkages EPA found using its own modeling, the agency again explained its assessment of Texas's SIP:

> [Texas]'s 2012 base case modeling showed linkages to states in the west. As discussed, the EPA does not find the additional weight of evidence evaluations conducted by [Texas] provide compelling reasons to discount the impacts indicated in Colorado and California by the [Texas] modeling. In fact, we think [Texas]'s modeling likely underestimates these issues. We therefore propose that Texas was required to analyze emissions from the sources and other emissions activity from within the State to determine whether its contributions were significant, and we propose to disapprove its submission because Texas failed to do so.[391]

The preceding discussion makes clear that, in addition to other reasons proffered by the agency, EPA disapproved Texas's SIP because it did not satisfy the Good Neighbor Provision even under Texas's own interpretation. Again, the Good Neighbor Provision requires SIPs to "contain adequate provisions . . . prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any [NAAQS]."[392] Texas's SIP based its conclusion that it did not need to provide for emissions

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[390] *Id.* at 9833 (footnote omitted).

[391] *Id.* at 9834.

[392] 42 U.S.C. § 7410(a)(2)(D).

prohibitions on the premise that its "emissions do not contribute significantly to nonattainment or interfere with maintenance . . . at any downwind monitors."[393] Texas interpreted a significant contribution as "a persistent and consistent pattern of contribution on several days with elevated ozone."[394] But EPA found that a persistent and consistent pattern of contribution on several days with elevated ozone "is already established by a modeled linkage at Step 2."[395] The agency further rejected that Texas's multifactor weight-of-evidence approach provides "sufficient evidence to refute" the pattern of contribution established by a modeled linkage.[396]

Texas objects that EPA's assessment of Texas's own data was not an independent basis for the agency's disapproval.[397] It points to three places in the proposed disapproval to make this argument.[398] First, EPA said: "based on the EPA's evaluation of the information submitted by [Texas] and based on the EPA 2016v2 modeling results for 2023, the EPA proposes to find that Texas is linked at Steps 1 and 2 and has an obligation to assess potential emissions reductions."[399] This statement, however, merely shows that EPA had multiple reasons for its disapproval, including a review of Texas's own submission.

Second, when discussing Texas's analysis of the collective interstate contribution factor, EPA noted that "EPA is not solely relying on [Texas]'s

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[393] TEXAS SIP, *supra* note 327, at 3-75.

[394] *Id.* at 3-50 to -51 (emphasis omitted).

[395] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9833.

[396] *Id.*

[397] Tex. Gov't Reply Br. at 9-10.

[398] Tex. Gov't Reply Br. at 9-10.

[399] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9831.

findings of linkages to Colorado and California but is also relying on its own findings of linkages to areas in the Midwest Region."[400] This comment arose in EPA's assessment of one of Texas's seven weight-of-evidence factors. In context, this was another instance of EPA's belt-and-suspenders reasoning. In addition to "relying on its own findings of linkages to areas in the Midwest Region," EPA separately explained why Texas's data "affirms, contrary to [Texas]'s suggestion, that the Colorado receptors [Texas] analyzed are impacted by upwind state contributions."[401]

Third, EPA summed up its reasoning by stating:

> EPA's more recent and robust 2016 base year modeling platform indicates that Texas is linked to several receptors in the Midwest Region as does the EPA's earlier 2011 base year modeling. [Texas]'s 2012 base case modeling showed linkages to states in the west. As discussed, the EPA does not find the additional weight of evidence evaluations conducted by [Texas] provide compelling reasons to discount the impacts indicated in Colorado and California by the [Texas] modeling.[402]

Here again, EPA provided more than one reason for disapproving Texas's SIP: both EPA's and Texas's modeling showed emissions that EPA concluded triggered Good-Neighbor obligations.

Texas's claim that EPA did not independently assess and reject Texas's SIP on its own merits is belied by the lengthy agency record detailed above. The smattering of places where EPA mentioned its own data during its discussion of the data in the Texas SIP does not undermine that.

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[400] *Id.* at 9833.

[401] *Id.*

[402] *Id.* at 9834.

Texas petitioners next argue that EPA unlawfully imposed a non-statutory requirement—namely, that the Good Neighbor Provision is violated whenever a downwind receptor meets or exceeds one percent of the NAAQS—by concluding that Texas's own data showed that the state had Good-Neighbor obligations.[403] But that is not what EPA said or did in its assessment of Texas's SIP on its own merits. The agency accepted Texas's interpretation of when obligations arise under the Good Neighbor Provision, which deemed Texas's contributions to downwind NAAQS violations "'significant' only if there [were] a persistent and consistent pattern of contribution on several days with elevated ozone."[404] EPA concluded that a "persistent and consistent pattern of contribution on several days with elevated ozone" is exactly what is "already established by a modeled linkage at Step 2."[405] In other words, the agency concluded that the SIP, on its own interpretation of the Good Neighbor Provision, itself proved that the state had Good-Neighbor obligations, which the SIP did not address. Texas petitioners do not argue that determination was arbitrary and capricious.

Instead, the Texas industry petitioners argue that two aspects of the agency's decision-making process were arbitrary and capricious. First, they identify a portion of the technical support document that EPA created to augment its disapproval of Texas's SIP.[406] In that document, EPA discussed why it believed that Texas's ozone modeling underestimated

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[403] Tex. Gov't Reply Br. at 9; Tex. Indus. Reply Br. at 18-19.

[404] TEXAS SIP, *supra* note 327, at 3-50 to -51.

[405] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9833.

[406] *See, e.g.*, Tex. Indus. Reply Br. at 21-23.

future ozone levels.[407] EPA identified two nonattainment areas in Texas for which the state had previously submitted SIPs.[408] Those prior SIPs projected that ozone design values would decrease by about 1 to 1.2 ppb per year—which was approximately what EPA eventually measured the trend to be.[409] Based on this trend, EPA hypothesized that there would be approximately a 3 to 4 ppb decrease in ozone concentrations over the (then future) period 2020 to 2023.[410] "To assess if [Texas]'s ozone transport modeling [was] potentially underestimating future year 2023 modeled [design values] in [the monitor] areas, the EPA compared 2020 monitored [design values] at several of the typically higher ozone monitors in the [relevant areas] with [Texas]'s projected 2023 [design values]."[411] EPA explained that "[w]hile not as exact as developing new modeling of emission changes from 2020 to 2023 to project 2023 [design values] (nor appropriate for use in any other context), using the general 3-4 ppb approximation provides a ballpark estimate to evaluate whether [Texas]'s modeling might be underestimating 2023 future [design values]."[412] Noting that many monitors in the relevant areas "would need a drop in ozone [design values] over the next 3 years of [more than] 5 ppb . . . to reach [Texas]'s 2023 modeled projected levels," EPA concluded that "[t]his analysis supports a

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[407] ERIK SNYDER, ENV'T PROT. AGENCY NO. EPA-R06-OAR-2021-0801, EPA REGION 6: 2015 8-HOUR OZONE TRANSPORT SIP PROPOSAL: TECHNICAL SUPPORT DOCUMENT 39-41 (2022), https://downloads.regulations.gov/EPA-R06-OAR-2021-0801-0002/attachment_1.pdf.

[408] *Id.* at 39.

[409] *Id.*

[410] *Id.* at 39-40.

[411] *Id.* at 40.

[412] *Id.*

finding that [Texas]'s modeling is likely underestimating future ozone [design values] in the two nonattainment areas in Texas."[413]

In the view of the Texas industry petitioners, this critique was unreasonable. The petitioners point out that EPA conceded it found "nothing that was a clear cause of the much lower 2023 [design values] that [Texas]'s modeling [was] projecting."[414] The Texas industry petitioners object that rather than identifying an error in the modeling, EPA relied on a "ballpark estimate" of 2023 ozone conditions.[415] They emphasize that EPA said its estimation was "not as exact as developing new modeling," "not usable in any other CAA action," and not "a defensible basis on which to reach any conclusions regarding future air quality conditions."[416] The Texas industry petitioners conclude that "[b]y basing its disapproval on a 'ballpark estimate' that was admittedly not 'a defensible basis' for '*any* conclusions regarding future air quality conditions,' EPA utterly failed to meet" the arbitrary and capricious standard.[417]

The Texas industry petitioners overstate the significance of this aspect of EPA's analysis to the agency's conclusion that Texas's modeling may have underestimated future ozone levels. Based on 2020 design values measured by EPA, the agency noted that for Texas's modeling to be accurate, many monitors would need a decrease in ozone design values of 5

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[413] *Id.* at 40-41.

[414] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9830 (Feb. 22, 2022); Tex. Indus. Br. at 44.

[415] Tex. Indus. Br. at 45.

[416] SNYDER, *supra* note 407, at 40 & n.23; Tex. Indus. Br. at 45.

[417] Tex. Indus. Br. at 45 (citation omitted) (quoting SNYDER, *supra* note 407, at 40 & n.23).

ppb or more over three years.[418] The decrease would have to be even greater for areas where the ozone concentration is higher.[419] EPA explained that it used its 3 to 4 ppb "ballpark figure" "only as a bounding assumption relevant to an analytical exercise establishing why the [Texas] modeling submitted in its transport SIP submittal likely under-projects future ozone concentrations."[420] In other words, the 3 to 4 ppb figure was a heuristic meant to highlight why a 5 ppb or greater decrease in ozone concentrations was implausible. That observation contributed to EPA's conclusion that Texas's modeling "may understate anticipated ozone levels at high ozone monitors" in some areas.[421]

More fundamentally, EPA's criticisms of Texas's modeling were separate from EPA's assessment and disapproval of Texas's SIP on its own merits. True, EPA noted that it thought Texas's "modeling likely underestimates" Texas's impacts on Colorado and California.[422] But that was after expressing that Texas's data showed that the state had a "persistent and consistent pattern of contribution on several days with elevated ozone" and that the agency did "not find the additional weight of evidence evaluations" to provide "compelling reasons to discount the impacts indicated in Colorado and California *by the* [*Texas*] *modeling*."[423] We cannot say that EPA's approach to critiquing Texas's modeling evinced that it failed

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[418] SNYDER, *supra* note 407, at 40, 49.

[419] *Id.* at 40-41.

[420] *Id.* at 40 n.23, 45 n.25.

[421] *Id.* at 66.

[422] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9834 (Feb. 22, 2022).

[423] *Id.* at 9833-34 (emphasis added).

to "reasonably consider[] the relevant issues and reasonably explain[] the decision."[424]

Second, the Texas industry petitioners contend that EPA acted arbitrarily and capriciously by failing to treat its SIP like previous SIPs the agency had approved.[425] Because "an agency changing its course must supply a reasoned analysis," we have recognized that "[i]t is a bedrock principle of administrative law that an agency must 'treat like cases alike.'"[426] In the view of the Texas industry petitioners, EPA treated Texas's SIP inconsistently with a SIP submitted by Arizona in response to the 2008 ozone NAAQS update.[427] In particular, the petitioners emphasize that EPA approved Arizona's SIP despite the state having had a greater than one percent contribution to problem receptors in California.[428] EPA's approval concluded that Arizona lacked Good-Neighbor obligations because the collective interstate contribution to the California receptors was between 2.5% and 4.4%, which EPA considered "negligible."[429]

We cannot conclude that EPA treated Texas's SIP inconsistently with Arizona's 2008 ozone NAAQS SIP. When addressing Texas's

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[424] *See FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021).

[425] Tex. Indus. Br. at 45-47.

[426] *Univ. of Tex. M.D. Anderson Cancer Ctr. v. HHS*, 985 F.3d 472, 479 (5th Cir. 2021) (first quoting *Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 57 (1983); and then quoting 32 CHARLES ALAN WRIGHT & CHARLES H. KOCH, FEDERAL PRACTICE AND PROCEDURE § 8248, at 431 (2006)).

[427] Tex. Indus. Br. at 9, 46.

[428] Tex. Indus. Br. at 46-47; Tex. Indus. Reply Br. at 23-24; Partial Approval and Partial Disapproval of Air Quality State Implementation Plans; Arizona; Infrastructure Requirements to Address Interstate Transport for the 2008 Ozone NAAQS (Arizona Approval), 81 Fed. Reg. 15200, 15203 (Mar. 22, 2016).

[429] Arizona Approval, 81 Fed. Reg. at 15203.

collective interstate contribution analysis, EPA acknowledged that the agency "has found in the past that certain California receptors are so heavily impacted by local emissions, and total upwind contribution is so low, that those receptors may not be considered to be affected by interstate ozone transport"—citing specifically its approval of Arizona's 2008 ozone NAAQS SIP.[430] Consistent with EPA discounting Arizona's link to California receptors in the Arizona SIP approval, EPA explained that it "need not draw any conclusions here regarding whether the California sites [Texas] identified should or should not be considered receptors for ozone-transport purposes."[431] Because Arizona was only linked to California receptors, setting aside those receptors meant that Arizona lacked Good-Neighbor obligations. Here, Texas's modeling showed that it was linked to receptors outside California.

The Texas industry petitioners suggest that collective interstate contributions modeled to the linked Colorado receptors should be similarly discounted.[432] They emphasize that the modeled contributions were between 9.32% and 10.27%, which they suggest are similar to the 2.5% to 4.4% contribution range that EPA dismissed as "negligible" in its approval of Arizona's 2008 ozone NAAQS SIP.[433] It is not obvious to us that collective interstate contributions that are two to five times as large are necessarily negligible. Regardless, in its proposed disapproval of Texas's SIP, EPA explained that unlike for California, "EPA has previously found . . . that

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[430] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. 9798, 9833 (Feb. 22, 2022) (citing Arizona Approval, 81 Fed. Reg. at 15200).

[431] *Id.*

[432] Tex. Indus. Reply Br. at 23-24.

[433] *See* Tex. Indus. Reply Br. at 23-24; Arizona Approval, 81 Fed. Reg. at 15203.

receptors in Colorado are heavily impacted by upwind-state contribution."[434] EPA considered Texas's argument that the Colorado receptors should be set aside like California's, and the agency "affirm[ed], contrary to [Texas]'s suggestion, that the Colorado receptors [Texas] analyzed are impacted by upwind state contributions."[435] The EPA's decision in this regard "is based upon its evaluation of complex scientific data within its technical expertise."[436] EPA's "path may reasonably be discerned."[437] We see no inconsistent treatment.

In sum, EPA disapproved Texas's SIP using the state's own data and interpretation of the Good Neighbor Provision. Although EPA also invoked perceived flaws in the SIP under EPA's approach, modeling, and interpretation, the agency record makes clear that the agency concluded that the SIP was deficient on its own terms. EPA found that Texas's SIP did not satisfy its obligations under the Good Neighbor Provision, and the Texas petitioners have not shown us that the finding was arbitrary, capricious, or contrary to law.

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[434] AR, LA, OK, TX Proposed Disapproval, 87 Fed. Reg. at 9833 (first citing Approval and Promulgation of State Implementation Plans; Interstate Transport for Utah, 82 Fed. Reg. 9155 (Feb. 3, 2017); and then citing Approval and Disapproval and Promulgation of Air Quality Implementation Plans; Interstate Transport for Utah, 81 Fed. Reg. 71991 (Oct. 19, 2016)).

[435] *Id.*

[436] *See Texas v. EPA*, 91 F.4th 280, 291 (5th Cir. 2024) (quoting *BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 824 (5th Cir. 2003)).

[437] *See FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 513-14 (2009) (quoting *Bowman Transp., Inc. v. Ark.–Best Freight Sys., Inc.*, 419 U.S. 281, 286 (1974)).

B

We now turn to EPA's disapproval of Mississippi's SIP. We (1) discuss whether the disapproval was arbitrary, capricious, or contrary to the CAA and (2) determine the proper remedy.

1

Mississippi relied on EPA's 2011-base-year modeling in its SIP.[438] That modeling showed that Mississippi contributed to twenty-one nonattainment or maintenance receptors, ranging from 0.01 to 0.79 ppb.[439] The state used a 1 ppb threshold to determine whether further analysis was necessary to determine Good-Neighbor obligations.[440] Because none of Mississippi's modeled contributions were above the 1 ppb threshold, the state concluded it had no Good-Neighbor obligations.[441]

EPA disapproved Mississippi's SIP.[442] The agency explained the "full basis" for disapproving Mississippi's SIP in its proposed disapproval.[443] There, EPA critiqued the state's use of a 1 ppb threshold rather than a one-percent-of-NAAQS threshold.[444] EPA now argues that Mississippi's use of the 1 ppb threshold was flawed and supports the agency's

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[438] Miss. Dep't of Env't Quality, Mississippi Certification Clean Air Act Section 110(a)(1) and (2) Ozone Requirements Section 110(a)(2)(D) Prongs 1 and 2 3 (Sept. 3, 2019), https://www.regulations.gov/document/EPA-R04-OAR-2021-0841-0009.

[439] *Id.* at 4.

[440] *Id.* at 6.

[441] *Id.* at 5-9.

[442] Disapproval, 88 Fed. Reg. 9336, 9357-58 (Feb. 13, 2023).

[443] *Id.* at 9354.

[444] AL, MS, TN Proposed Disapproval, 87 Fed. Reg. 9545, 9557 (Feb. 22, 2022).

disapproval.[445] But EPA disclaimed that rationale in its proposed disapproval, and the agency therefore cannot rely on it now.[446] EPA said that Mississippi's choice to use a 1 ppb threshold was ultimately "inconsequential to EPA's proposed action on this SIP."[447]

Instead, EPA rested its disapproval on its "most recently available modeling to identify upwind contributions and 'linkages' to downwind air quality problems in 2023."[448] That modeling projected that Mississippi "is projected to contribute greater than both the 1 percent and alternative 1 ppb thresholds" to several receptors.[449] However, that modeling, which used 2016 as a base year, was not available to Mississippi at the time the state submitted its SIP.[450] Accordingly, the operative question is whether it was arbitrary, capricious, or contrary to the CAA for EPA to disapprove Mississippi's SIP using the 2016-base-year modeling.

Mississippi makes two arguments: (1) EPA is forbidden from judging a SIP based on data and modeling developed after a SIP was submitted,[451] and (2) EPA's use of that data to disapprove Mississippi's SIP was arbitrary

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[445] EPA Br. at 138-45.

[446] *See Wages & White Lion Invs., L.L.C. v. FDA*, 90 F.4th 357, 371 (5th Cir.) (en banc) ("The agency is not free to defend its decision by supplying new, *post hoc* rationalizations for it when sued."), *cert. granted*, 144 S. Ct. 2714 (2024).

[447] AL, MS, TN Proposed Disapproval, 87 Fed. Reg. at 9557.

[448] *Id.*

[449] *Id.*

[450] *See* Disapproval, 88 Fed. Reg. 9336, 9339, 9365 (Feb. 13, 2023).

[451] Miss. Reply Br. at 20-21.

and capricious.[452] Because we agree with the state's second argument, we need not address its first argument.

EPA contends that its disapproval of Mississippi's SIP—like its disapprovals of Louisiana's and Texas's SIPs—was based on the SIP's own merits.[453] The agency submits that its "consideration of the updated 2016-based modeling was not outcome-determinative" of the disapprovals.[454] That is consistent with the position EPA took when it responded to comments challenging the agency's use of updated data. There, EPA said: "EPA did not evaluate states' SIP submissions based solely on the 2016v2 emissions platform . . . We evaluated the SIP submissions based on the merits of the arguments put forward in each SIP submission."[455] Accordingly, the agency's position has consistently been the one advanced before this court—that it did not "disapprove the state submissions based on the 2016-based modeling, which only confirmed EPA's conclusion."[456]

But that was not the case for Mississippi's SIP. Beginning its assessment of Mississippi's analysis of linkages to downwind receptors, EPA explained:

> EPA has recently updated modeling to identify upwind state contributions to nonattainment and maintenance receptors in 2023. In this proposal, EPA relies on the Agency's most recently available modeling to identify upwind contributions

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[452] Miss. Reply Br. at 22-25.

[453] EPA Br. at 129.

[454] EPA Br. at 185.

[455] Disapproval, 88 Fed. Reg. at 9366.

[456] EPA Br. at 102.

> and "linkages" to downwind air quality problems in 2023 using a threshold of 1 percent of the NAAQS.[457]

The agency further explained:

> [B]ased on EPA's updated modeling, the State is projected to contribute greater than both the 1 percent and alternative 1 ppb thresholds. While EPA does not, in this action, approve of the State's application of the 1 ppb threshold, based on its linkages greater than 1 ppb to projected downwind nonattainment or maintenance receptors, the State's use of this alternative threshold at Step 2 of the 4-step interstate framework is inconsequential to EPA's proposed action on this SIP.[458]

In other words, EPA treated its updated modeling as outcome determinative for its disapproval of Mississippi's SIP. Keeping constant the state's choice of a 1 ppb screening threshold—which EPA admitted was "inconsequential" to its disapproval—Mississippi contributed more than 1 ppb to any receptor only under the updated data, not the 2011-base-year modeling.

On this record, EPA's disapproval was arbitrary and capricious. In its en masse response to comments related to use of updated data, EPA asserted that it reviewed SIP submissions on their own terms and supplemented that review with its updated data.[459] But the agency failed to recognize, much less "reasonably consider[]," that for Mississippi, the use of updated data was entirely outcome determinative.[460] Nor did EPA "reasonably explain[]" its decision to base its disapproval of Mississippi's

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[457] AL, MS, TN Proposed Disapproval, 87 Fed. Reg. 9545, 9557 (Feb. 22, 2022).

[458] *Id.*

[459] Disapproval, 88 Fed. Reg. at 9366.

[460] *See FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021).

SIP on data that did not exist when the state submitted its SIP.[461] The agency appeared to accept as a relevant concern that it might use updated data in an outcome-determinative way. EPA recognized "that states generally developed their SIP submissions with the best available information at the time of their development."[462] EPA dismissed this concern by explaining that its actions on the SIP submissions did not depend "solely" on the updated data.[463] For Mississippi, however, this was not true—the agency's disapproval was "based on EPA's updated modeling."[464]

EPA did respond to comments that argued the agency was forbidden from using updated data. For example, EPA said: "It can hardly be the case that the EPA is prohibited from taking rulemaking action using the best information available to it at the time."[465] That may be true.[466] But even assuming that EPA is not forbidden from using updated data, that does not explain the agency's choice to use that data in an outcome-determinative manner to disapprove Mississippi's SIP. The agency's disapproval of Mississippi's SIP on this record was arbitrary and capricious.

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[461] *See id.*; *see also Tex. Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 933 (5th Cir. 1998) (explaining that it is arbitrary and capricious for an agency to "offer[] an explanation for its decision that runs counter to the evidence before the agency" (quoting *Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983))).

[462] Disapproval, 88 Fed. Reg. at 9366.

[463] *Id.*

[464] AL, MS, TN Proposed Disapproval, 87 Fed. Reg. 9545, 9557 (Feb. 22, 2022).

[465] Disapproval, 88 Fed. Reg. at 9366.

[466] *See Wisconsin v. EPA*, 938 F.3d 303, 321-22 (D.C. Cir. 2019) (per curiam) (holding that EPA properly considered data and modeling developed after the SIP submission deadline).

2

EPA argues that we should remand without vacating its disapproval of Mississippi's SIP.[467] In the agency's own words, that would "allow EPA the authority to bring" its FIP "into effect for . . . Mississippi . . . through appropriate rulemaking action."[468]

Our court has adopted two factors to determine whether vacatur without remand is warranted: "(1) the seriousness of the deficiencies of the action, that is, how likely [it is] the agency will be able to justify its decision on remand; and (2) the disruptive consequences of the vacatur."[469] "The default rule is that vacatur is the appropriate remedy."[470]

On the first factor, EPA contends that Mississippi alleged procedural and record-based deficiencies that the agency could correct on remand.[471] It is true that the agency's disapproval was arbitrary and capricious because of its defective explanation. But because EPA, before our court, has insisted that it only used updated data to confirm its conclusions, we cannot be confident what the agency would do on remand. EPA may, for example, attempt to justify its disapproval based on updated data, or it may instead choose to reexamine its characterization of Mississippi's 1 ppb threshold as "inconsequential."[472] Either way, Mississippi has proffered serious

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[467] EPA Br. at 211.

[468] EPA Br. at 216.

[469] *Texas v. United States*, 50 F.4th 498, 529 (5th Cir. 2022) (quoting *United Steel v. Mine Safety & Health Admin.*, 925 F.3d 1279, 1287 (D.C. Cir. 2019)).

[470] *Data Mktg. P'ship, LP v. U.S. Dep't of Lab.*, 45 F.4th 846, 859 (5th Cir. 2022).

[471] EPA Br. at 212.

[472] *See* AL, MS, TN Proposed Disapproval, 87 Fed. Reg. 9545, 9557 (Feb. 22, 2022).

arguments that those rationales for disapproval would be unlawful[473]—arguments that, depending on EPA's explanation on remand, a court may have to resolve in the future.

On the second factor, EPA avers that "[v]acatur would . . . leave downwind areas to suffer continuing poor air quality and inequitable regulatory burdens and hinder downwind states' efforts to attain the" 2015 NAAQS.[474] Mississippi responds that this would authorize EPA "to *implement* the federal plan for Mississippi while EPA decides how to disapprove Mississippi's plan yet again," which would "impose all the irreparable harm Mississippi sought a stay to prevent."[475]

We acknowledge that "each side has strong arguments about the harms they face and equities involved."[476] But we conclude that vacatur would not be unduly disruptive. It would do "nothing but re-establish the status quo absent the unlawful agency action."[477] Indeed, to permit EPA to proceed with implementing its FIP in Mississippi without lawfully disapproving the state's SIP would subvert the CAA's design. Under 42 U.S.C. § 7410(c)(1), EPA's authority to promulgate a FIP depends entirely on the agency having disapproved a state's SIP.[478] We decline to permit EPA to implement its FIP for Mississippi until the agency has lawfully disapproved the state's SIP.

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[473] *E.g.*, Miss. Br. at 25-26, Miss. Reply Br. at 20.

[474] EPA Br. at 214.

[475] Miss. Reply Br. at 27.

[476] *See Ohio v. EPA*, 603 U.S. 279, 292 (2024).

[477] *Texas v. United States*, 40 F.4th 205, 220 (5th Cir. 2022) (per curiam).

[478] *See EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 498 (2014).

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For the foregoing reasons, the petitions for review of EPA's disapprovals of Louisiana's and Texas's SIPs are DENIED. The petition for review of EPA's disapproval of Mississippi's SIP is GRANTED, the disapproval is VACATED, and the matter is REMANDED to EPA.