

United States Court of Appeals
for the Fifth Circuit

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Fifth Circuit

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Lyle W. Cayce
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No. 17-60088

STATE OF TEXAS; TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY; LUMINANT GENERATION COMPANY, L.L.C.; BIG
BROWN POWER COMPANY, L.L.C.; SANDOW POWER COMPANY,
L.L.C.; LUMINANT MINING COMPANY, L.L.C.,

Petitioners,

versus

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY;
MICHAEL S. REGAN, *in his official capacity as Administrator of the United
States Environmental Protection Agency,*

Respondents,

CONSOLIDATED WITH

No. 21-60673

STATE OF TEXAS; TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY; LUMINANT GENERATION COMPANY, L.L.C.;
LUMINANT MINING COMPANY, L.L.C.,

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY;
MICHAEL S. REGAN, *in his official capacity as Administrator of the United States Environmental Protection Agency*,

Respondents.

Petitions for Review of an Order of the
Environmental Protection Agency
EPA Nos. 81 Fed. Reg. 89,870;
86 Fed. Reg. 34,141; 86 Fed. Reg. 34,187

Before KING, ELROD, and SOUTHWICK, *Circuit Judges*.

LESLIE H. SOUTHWICK, *Circuit Judge*:

This case concerns the standards that the United States Environmental Protection Agency must follow when reviewing attainment recommendations by the States in relation to the National Ambient Air Quality Standards (“NAAQS”). The history of the EPA’s actions shows two changes of course, perhaps reflecting how quadrennial elections have consequences.

Relying exclusively on data submitted by Intervenor Sierra Club, the EPA in late 2016 designated two counties in Texas as nonattainment for purposes of the 2010 sulfur dioxide NAAQS.

The first course change occurred in 2019. The EPA reported that the previous designation may have been in “error,” explained that the data available at the time may have been insufficient to establish the counties’ noncompliance with the NAAQS, and proposed to “correct” the mistake by redesignating the counties as unclassifiable after seeking comment from the public regarding the error.

The latest reversal was in June 2021, when the EPA withdrew the error-correction proposal and denied a request to reconsider.

17-60088
c/w No. 21-60673

The State of Texas and Luminant Generation Company, L.L.C., two parties adversely affected by the nonattainment designation, petition for review of the final EPA action. We uphold the final action, despite its history. We DENY the petitions for review.

STATUTORY BACKGROUND

Section 109 of the Clean Air Act (“CAA”) directs the EPA to establish the NAAQS, which set the maximum permissible concentrations of harmful air pollutants deemed to pose a risk to public health and safety. 42 U.S.C. §§ 7408–7409. Congress has delegated authority to the EPA to establish the particular limits for these “criteria pollutants.” *Id.* § 7409; *National Lime Ass’n v. EPA*, 233 F.3d 625, 637 (D.C. Cir. 2000); *see generally* 40 C.F.R. pt. 50. Among the criteria pollutants is sulfur dioxide (“SO₂”), exposure to which can cause respiratory and cardiovascular illnesses. *See* Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520, 35,525–26 (June 22, 2010) (as codified at 40 C.F.R. pts. 50, 53, 58).

“[A]s expeditiously as practicable, but in no case later than 2 years” from establishing or revising a NAAQS for a pollutant, the EPA must designate regions of the United States as either in “attainment,” “non-attainment,” or “unclassifiable.” 42 U.S.C. § 7407(d)(1)(A), (d)(1)(B)(i). That period “may be extended for up to one year in the event the [EPA] has insufficient information to” make a designation. *Id.* § 7407(d)(1)(B)(i). The States have a responsibility of providing recommendations on how to designate regions within the state, which the EPA then reviews and may modify if it “deems necessary.” *Id.* § 7407(d)(1)(A), (d)(1)(B)(ii). If the EPA designates an area as “nonattainment,” the State must submit a state implementation plan (“SIP”) that includes measures to meet the new standard. *Id.* § 7410(a)(2)(D), (a)(2)(I). Regarding SO₂, new standards must be met within five years. *Id.* §§ 7514(a), 7514a(a).

17-60088
c/w No. 21-60673

FACTUAL AND PROCEDURAL BACKGROUND

In 2010, the EPA revised the NAAQS for SO₂ to 75 parts per billion (“ppb”), measured as a one-hour average. *See* Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. at 35,521.

Affected here are two lightly populated counties in east Texas: Rusk and Panola. Luminant Generation Company, L.L.C., owns and operates the Martin Lake power plant in Rusk County. That power plant is relevant here because SO₂ is a natural byproduct of burning coal to generate electricity. Thus, the State of Texas must consider that source of SO₂ emissions in assessing whether Rusk and Panola Counties were in attainment for the new NAAQS.

The State set out to make its initial attainment recommendations. One difficulty was that infrastructure had not yet developed to allow reliable monitoring or modeling of SO₂ emissions. The EPA issued a guidance document explaining its expectation that most areas would be designated as unclassifiable for lack of clear data, explaining: “Given the current limited network of SO₂ monitors, and our expectation that states will not yet have completed appropriate modeling of all significant SO₂ sources, we anticipate that most areas of the country will be designated ‘unclassifiable.’”

Consistent with this expectation, in June 2011, the State recommended that most counties be designated as unclassifiable, including Rusk and Panola Counties. The EPA was required by statute to make final designations within two years after the revision of the NAAQS. *See* 42 U.S.C. § 7407(d)(1)(B)(i). In July 2012, however, the EPA extended this deadline to June 3, 2013, because it determined there was “insufficient information to promulgate the designations” of the Counties. Extension of Deadline for Promulgating Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard, 77 Fed. Reg. 46,295, 46,297–98

17-60088
c/w No. 21-60673

(Aug. 3, 2012). It further responded to the State's February 2013 recommendations and explained that its review "of the most recent monitored air quality data from 2009–2011 shows no violations of the 2010 SO₂ standard in any areas in Texas."

The EPA did not meet the June 3 deadline. In August 2013, the EPA issued "Round 1" designations under the 2010 NAAQS, designating regions in 16 states. Air Quality Designations for the 2010 Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard, 78 Fed. Reg. 47,191 (Aug. 5, 2013) (as codified at 40 C.F.R. pt. 81). The Round 1 designations relied only on the available air quality monitoring data. *Id.* The EPA stated it would continue to make designations "in separate future actions." *Id.* at 47,191.

Sierra Club and the National Resources Defense Council filed suit against the EPA in the Northern District of California to complete designations for the rest of the country. They argued the EPA had failed to fulfill a nondiscretionary duty under the CAA. Texas and other States intervened to represent their interests in disputing any nonattainment designations, given that such a designation would create an obligation to develop a SIP. The EPA did not contest liability. The district court granted summary judgment in favor of the plaintiffs and ordered the parties to confer on the proper remedy. Sierra Club and the EPA entered into, and the district court approved, a consent decree that required the EPA to issue final designations for regions with the largest sources of SO₂ by July 2, 2016. *See* Consent Decree, *Sierra Club v. McCarthy*, No. 3:13-cv-3953, 2015 WL 889142 (N.D. Cal. Mar. 2, 2015), ECF No. 163. The States appealed, presenting essentially the same arguments raised in the district court. The Ninth Circuit affirmed the entry of the consent decree, holding that the settlement was consistent with the CAA. *Sierra Club v. North Dakota*, 868 F.3d 1062, 1068 (9th Cir. 2017).

17-60088
c/w No. 21-60673

Before the Ninth Circuit decision, the EPA developed its final designations under the new deadlines. In conjunction with the new schedule, the EPA issued a regulation providing “a process and timetables” for the States to collect new data regarding SO₂ emissions. Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard, 80 Fed. Reg. 51,052 (Aug. 21, 2015). The Data Requirements Rule directed the States to furnish either monitoring or modeling data for SO₂ emissions for certain regions, which included Rusk and Panola Counties. *Id.* The States could either mechanically measure air concentrations using physical gas detectors — known as “monitoring” — or they could develop air dispersion programs to predict concentrations based on SO₂ emissions and weather patterns — known as “modeling.” *Id.* at 51,053–54.

In response, Texas submitted recommendations for area designations. Importantly, Texas recommended Rusk and Panola County be designated as either unclassifiable or in attainment and data gathered from air quality monitors be used. Texas notified the EPA in June 2016 that it elected to create such a monitoring network in Rusk County to measure emissions from the Martin Lake power plant. Sierra Club also submitted to the EPA modeling that purported to show three facilities within these Counties established the areas were nonattainment. Sierra Club’s model predicted the SO₂ concentration within a fifty-kilometer radius of the Martin Lake power plant. The model projected a maximum concentration of 132.7 ppb, easily in excess of the 75-ppb limit established by the revised NAAQS. The EPA subsequently issued a draft Technical Support Document that rejected Texas’s recommendations and stated it would instead rely upon Sierra Club’s modeling.

The EPA proposed that 66 areas in 24 states would be included in the “Round 2” designations. *See* EPA Responses to Certain State Designation Recommendations for the 2010 Sulfur Dioxide National Ambient Air Quality Standard: Notice of Availability and Public Comment Period, 81 Fed. Reg.

17-60088
c/w No. 21-60673

10,563 (Mar. 1, 2016) (as codified at 40 C.F.R. pt. 81). In this proposal, the EPA designated Rusk and Panola Counties as nonattainment. Interested parties had 30 days to provide additional information before the EPA made its final decision. *Id.* at 10,563. During the comment period, Luminant submitted its own modeling that purportedly showed Sierra Club’s modeling overstated the impact of emissions for the three Texas areas due to errors and shortcomings.

In July 2016, the EPA delivered its final-rulemaking designations for 61 areas. Air Quality Designations for the 2010 Sulfur Dioxide, 81 Fed. Reg. 45,039, 45,040–41 (July 12, 2016) (as codified at 40 C.F.R. pt. 81). Pursuant to an agreed modification to the consent decree, the EPA delayed issuing the Round 2 designations for the four remaining areas in Texas. *See* Joint Notice of Stipulated Extension of Consent Decree Deadline, *Sierra Club v. McCarthy*, No. 3:13-cv-3953 (N.D. Cal. Oct. 28, 2016), ECF No. 180.

In December 2016, the EPA issued a “Supplement to Round 2 for Four Areas in Texas” making designations for the areas surrounding the Big Brown, Martin Lake, Monticello, and Sandow power plants. 81 Fed. Reg. 89,870, 89,871 (Dec. 13, 2016) (as codified at 40 C.F.R. pt. 81). Contrary to Texas’s recommendations and after providing the required notice to Texas, the EPA designated three of the areas as “nonattainment.” *Id.* at 89,875. Those areas included portions of: (1) Freestone and Anderson Counties; (2) Rusk and Panola Counties; and (3) Titus County. *Id.* The EPA acknowledged the Petitioners’ objections, but it explained that it relied upon the modeling submitted by Sierra Club in making these determinations, despite recognizing its “potential defects.” U.S. Environmental Protection Agency, Responses to Significant Comments on the Designation Recommendations for the 2010 Sulfur Dioxide National Ambient Air Quality Standards (NAAQS), at 17 (Nov. 29, 2016); *see also* U.S. Environmental Protection

17-60088
c/w No. 21-60673

Agency, Technical Support Document for Supplemental Designations — Four Areas in Texas, at 61, 75 (Nov. 29, 2016).

During the March 2016 comment period, Sierra Club had re-submitted its modeling data with certain adjustments. In addition, Luminant submitted its own modeling analysis respecting Rusk and Panola Counties. In doing so, Luminant made alterations to the EPA's preferred air-dispersion model, called AERMOD. The alterations were designed to account for the site-specific conditions that the Petitioners contend should have been addressed by Sierra Club's model. Among other things, Luminant's model utilized two peer-reviewed modeling refinements, called AERLIFT and AERMOIST. Luminant's model predicted a SO₂ concentration in Rusk and Panola Counties less than the 75-ppb legal limit.

However, the EPA declined to consider Luminant's model because it did "not conform to [EPA] guidance." Technical Support Document for Supplemental Designations at 33. The EPA assessed whether the adjustments might affect the model and admitted that "the impacts they would have on the modeling are very significant." *Id.* at 34; *see also id.* at 35 (noting that "the scientific principles seem like these might be refinements"). Even so, the EPA concluded it could not credit the changes without a "full review." *Id.* at 35. The agency referred Luminant to its regulatory procedure for reviewing new air dispersion models, codified at 40 C.F.R. Part 51 Appendix W, and observed that a "full review . . . has not yet occurred for AERLIFT and AERMOIST." *Id.* Given the lack of agency review of Luminant's new model, the EPA stated, "the validity of the models and resulting concentrations is not known." Responses to Significant Comments at 36. Finally, the agency contended Luminant's model might be inaccurate because it relied in part on "reduced emission rates" and "efficiency improvements" not included within the company's current air permit. Technical Support Document for Supplemental Designations at 55–56.

17-60088
c/w No. 21-60673

The EPA finalized its December 2016 proposal, designating Rusk and Panola Counties as nonattainment. Supplement to Round 2 for Four Areas in Texas, 81 Fed. Reg. at 89,871. After EPA promulgated its final designations, the Petitioners filed their first petition for review to this court and administrative petitions for reconsideration with the EPA regarding the three nonattainment designations. Before those actions proceeded, the EPA moved to transfer the petition for review to the D.C. Circuit. 42 U.S.C. § 7607(b)(1) (establishing venue rules for petitions for review of EPA orders). We denied the motion to transfer, explaining that the petition concerned only several counties in Texas and was not the sort of nationwide dispute that mandated venue in Washington, D.C. *Texas v. EPA*, 706 F. App'x 159, 161 (5th Cir. 2017).

Shortly after, in September 2017, the EPA sent a letter in response to Luminant's reconsideration petition, stating that “[a]fter review of the information contained in your petition, we intend to undertake an administrative action with notice and comment to revisit the nonattainment designations for the portions of . . . Rusk and Panola Counties.” U.S. Environmental Protection Agency, Response to Petition for Reconsideration and Administrative Stay to Vista Energy, at 1 (Sept. 21, 2017). We granted the EPA's motion to place the petition for review in abeyance because further administrative proceedings might moot the controversy.

While the reconsideration process was underway, the nonattainment designations remained in effect. *Id.* In December 2017, Texas also submitted a reconsideration petition, and Luminant submitted additional information explaining that Luminant intended to close the power plants in Titus and Freestone/Anderson Counties. The Petitioners proposed the EPA change the designation surrounding the Martin Lake power plant in Rusk and Panola Counties to “unclassifiable” for three years to allow for a newly installed monitor to collect data.

17-60088
c/w No. 21-60673

In August 2019, the EPA issued a proposed “Error Correction of the Area Designations” for the three areas designated as nonattainment. 84 Fed. Reg. 43,757 (Aug. 22, 2019) (as codified at 40 C.F.R. pt. 81). The EPA advanced these corrections for two primary reasons. First, the EPA suggested it had erred by “failing to give greater weight to the preference of the state to monitor air quality” pursuant to the Data Requirements Rule. *Id.* at 43,761. Second, the EPA suggested it erred by relying on Sierra Club’s modeling when it contained “key limitations and uncertainties.” *Id.* The “purpose of this [Proposed Error Correction was] to solicit input from the public on EPA’s error in designating portions of Freestone and Anderson Counties, Rusk and Panola Counties, and Titus County as nonattainment, and the corrected designations of unclassifiable.” *Id.* at 43,762.¹ In response, Sierra Club submitted updated modeling that confirmed the EPA’s 2016 nonattainment designations of the Counties.

In June 2021, the EPA informed the Petitioners it was denying their reconsideration petitions, detailing the governing standards and the reasons for the denial. The EPA then published notice of its denials. *See* Air Quality Designations for the 2010 1-Hour SO₂ NAAQS: Responses to Petitions for Reconsideration and Administrative Stay of the Designations for Portions of Freestone and Anderson Counties, Rusk and Panola Counties, and Titus County in Texas, 86 Fed. Reg. 34,141 (June 29, 2021) (as codified at 40 C.F.R. pt. 81). The EPA also published a notice withdrawing its Proposed Error Correction. *See* Error Correction of the Area Designations for the 2010 1-Hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality

¹ In May 2021, the EPA issued Clean Data Determinations for Freestone/Anderson and Titus counties, finding that due to the retirement of the power plants in those areas, each was now attaining the 2010 SO₂ NAAQS. 86 Fed. Reg. 26,401 (May 14, 2021) (codified at 40 C.F.R. pt. 52).

17-60088
c/w No. 21-60673

Standard (NAAQS) in Freestone and Anderson Counties, Rusk and Panola counties, and Titus County in Texas, 86 Fed. Reg. 34,187 (June 29, 2021) (as codified at 40 C.F.R. pt. 81).

The EPA provided an evaluation of Sierra Club’s modeling with its denials of the petitions for reconsideration. In its withdrawal of the Proposed Error Correction, the EPA stated the Sierra Club’s updated 2019 model “addressed all aspects of the March 2016 modeling that [the] EPA had identified . . . as a limitation or uncertainty.” *Id.* at 34,188. The EPA further contended that it was impossible for it to “giv[e] greater weight” to the State’s decision to establish a monitoring network in Rusk County because its court-ordered deadline to make initial designations — July 2016 — came before the State could install the SO₂ monitors. *Id.* Indeed, the EPA asserted it lacked legal authority to defer to a State’s future collection of monitoring data. *See id.* at 34,188–89 (“[T]he EPA does not interpret the [CAA] as allowing the EPA to consider future air quality in the initial designations process . . .”). In a separate letter to the State, the EPA explained its position as follows:

[A]t the time of the final designations, the agency did not have the discretion to await the results of 3 years of ambient air monitoring data (*i.e.*, 2018–2020) from Texas’s proposed (but not yet established) monitoring sites before taking final action due to the [consent decree with Sierra Club] to designate certain areas in Texas.

U.S. Environmental Protection Agency, Petition Denial Letter, Enclosure 1, at 11 (June 10, 2021).

Petitioners then filed a petition in this court for review of the administrative orders that withdrew the proposed error correction and denied the reconsideration petitions. That action was consolidated with the prior petition, seeking review of the EPA’s designation of Rusk and Panola counties as nonattainment.

17-60088
c/w No. 21-60673

DISCUSSION

The Petitioners challenge three final agency actions of the EPA. Each action designated portions of Rusk and Panola counties as not attaining the air quality standards for SO₂. The Petitioners argue the EPA's nonattainment designation should be vacated for three reasons. First, they argue the EPA's designating portions of Rusk and Panola counties as not attaining air quality standards for SO₂ violates the CAA because the evidence available at the time showed attainment. Second, they argue the EPA acted unlawfully because it treated similarly situated counties in other States differently than Rusk and Panola counties. Third, they argue the EPA misconceived the law and its legal authority in issuing the designation and denying the Petitioners' petitions for reconsideration, because the EPA erroneously believed it did not have the legal authority to delay classification until the State gathered monitoring data.

The Administrative Procedure Act ("APA") permits a reviewing court to "hold unlawful and set aside" agency actions that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2). In determining whether agency action is "arbitrary" or "capricious," a reviewing court must "insist that an agency 'examine the relevant data and articulate a satisfactory explanation for its action.'" *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 513 (2009) (quoting *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). In doing so, a reviewing court does not "substitute [its] judgment for that of the agency," *Clean Water Action v. EPA*, 936 F.3d 308, 316 (5th Cir. 2019), and instead "simply ensures that the agency has acted within a zone of reasonableness," *FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021). The reviewing court "may not supply a reasoned basis for the agency's action that the agency itself has not given." *State Farm*, 463 U.S. at 43 (quoting *SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947)).

17-60088
c/w No. 21-60673

This court’s review “must be ‘most deferential’ to the agency where, as here, its decision is based upon its evaluation of complex scientific data within its technical expertise.” *BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 824 (5th Cir. 2003) (quoting *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983)). The reviewing court’s “role is to evaluate whether the EPA’s projections represent arbitrary or capricious exercises of its authority, not whether they are accurate.” *Id.* at 832. When reviewing the EPA’s “choice of analytical methodology,” there is a “presumption of regularity” that creates a “considerable burden” for challenging parties to overcome. *Id.* (quoting *American Petroleum Inst. v. EPA*, 787 F.2d 965, 983 (5th Cir. 1986)).

Notwithstanding the above, the arbitrary-and-capricious standard is “not toothless.” *Southwestern Elec. Power Co. v. EPA*, 920 F.3d 999, 1013 (5th Cir. 2019). On the contrary, our review is “searching and careful.” *University of Tex. M.D. Anderson Cancer Ctr. v. U.S. Dep’t of Health & Hum. Servs.*, 985 F.3d 472, 475 (5th Cir. 2021) (quoting *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 378 (1989)). Above all, an agency must “examine the relevant data and articulate a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made.’” *State Farm*, 463 U.S. at 43 (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)). In taking final action, an agency must comply with its own regulations. *See Gulf States Mfrs., Inc. v. NLRB*, 579 F.2d 1298, 1308 (5th Cir. 1978) (“[T]he failure of an agency to follow its regulations renders its decision invalid.”).

I. The Counties’ nonattainment designation.

The Petitioners assert that the EPA’s designation of portions of Rusk and Panola counties as not attaining ambient air quality standards for SO₂ was arbitrary, capricious, or unlawful because the EPA (a) ignored monitoring

17-60088
c/w No. 21-60673

data purportedly showing attainment, (b) refused to consider Luminant's modeling when it was obligated to select the best modeling approach, and (c) based its decision on Sierra Club's modeling, which it found to have certain limitations and uncertainties. Also, the Petitioners contend that (d) the EPA's reliance on Sierra Club's modeling, to the exclusion of other information, was based on an impermissible reading of the CAA in this case.

First, the Petitioners argue that the EPA failed to give due consideration to air quality monitoring data from the existing Longview airport monitor in Gregg County that showed actual SO₂ levels in the air were below the NAAQS. According to the Petitioners, such data is relevant because it was within the radius of the modeling submitted by Sierra Club and should have been used to validate Sierra Club's modeling results. In the Petitioners' view, that information would have refuted Sierra Club's modeling because "one version of Sierra Club's modeling predicted values *more than double* what the monitor actually registered."

In response, the EPA maintains that it did consider this data but concluded it "was too far from Martin Lake to be of any use," and the Longview monitor was not in the area expected to receive the highest impact or be representative of SO₂ emissions from the Martin Lake facility. The EPA asserts that the fact the monitor is within the radius of Sierra Club's modeling is meaningless because the monitoring data was still not probative of SO₂ concentrations nearest the source, where concentrations are the greatest. The EPA explains that a certain radial distance "just represents the reach of a given *model*. It has nothing to do with the ability of a single *monitor* to assess" SO₂ concentrations 19 kilometers away from its physical location.

Sierra Club adds that the "one version" of its modeling showing SO₂ concentrations exceeding monitored values (September 2015 modeling) was not the modeling the EPA relied upon in making its final nonattainment

17-60088
c/w No. 21-60673

determination (March 2016 modeling). Moreover, the Sierra Club modeling relied upon by the EPA showed SO₂ concentrations exceeding acceptable values near the Martin Lake facility but not near the Longview monitor.² This is because SO₂ concentrations are highest closer to the combustion source, and the assessment of a monitor located away from that source, like the Longview monitor, would result in a lower reading, unrepresentative of concentrations at the facility location.

In the Technical Support Document for the EPA's intended designations of Rusk and Panola counties, the EPA recognized the existence of the Longview monitoring data and explained that "the absence of a violating monitor when considering the distance from the facility is not a sufficient technical justification to rule out that an exceedance of the 2010 SO₂ NAAQS may occur in the immediate vicinity of the facility." When responding to the Petitioners' comments, the EPA further explained that "the modeling is more informative than the monitoring information" because "[t]he monitoring information provided is for monitors not sited to monitor the most likely areas of highest impacts around these four sources. Therefore, the monitoring data is of little/no value in determining" attainment or nonattainment.

In their reply brief, the Petitioners argue that the EPA's designation should be vacated for the sole reason that they failed to compare Sierra Club's model to the monitoring data. In support, they point out that this

² The Petitioners' response to this point is that neither the EPA nor Sierra Club argue that the other version of Sierra Club's modeling did not also overstate SO₂ concentrations at the Longview monitor. As the Petitioners put it, "[e]ither Sierra Club (like EPA) has not bothered to look, or it does not like the answer." Somewhat ironically, the Petitioners also do not argue that the version of Sierra Club's model the EPA relied upon unreasonably exceeded the actual values, nor do they cite where in the record the answer may be.

17-60088
c/w No. 21-60673

court found a “model-to-monitor comparison to be meaningful and probative” in *BCCA Appeal Group*. Unlike *BCCA Appeal Group*, though, where Texas compared the model to actual ozone concentrations measured at 34 air quality monitors, it is unclear how helpful it would be to compare the model’s performance here to data collected by a single monitor. *BCCA Appeal Grp.*, 355 F.3d at 831. In any event, this is the type of technical decision that this court has said should be viewed with the most deference. *See id.* at 834.

Because exclusion of the monitoring data was “based upon its evaluation of complex scientific data within its technical expertise,” we review the EPA’s decisions regarding its analysis with the most deference. *Id.* Under this standard, the EPA’s explanation for its reliance on Sierra Club’s modeling, despite the existence of the monitoring data, was most likely adequate. *See State Farm*, 463 U.S. at 43. The EPA acknowledged the monitoring data and stated the monitor from which the data came was “not located in an area expected to receive the highest impact of SO₂ emissions.” The revised modeling from Sierra Club had “more refined inputs for stack and emissions data,” making this modeling “the best modeling available to serve as the basis for [its] decision.” By addressing the Petitioners’ concerns and explaining why they were not merited with a plausible explanation, the EPA did not “fail[] to consider an important aspect of the problem.” *See Texas Oil & Gas Ass’n v. EPA*, 161 F.3d 923, 933 (5th Cir. 1998) (quoting *State Farm*, 463 U.S. at 43).³ We find that the EPA did not act arbitrarily or

³ In a sentence in the Petitioners’ opening brief, they suggest the EPA also acted arbitrarily and capriciously by denying Texas the ability to “avail itself of the options [the] EPA itself provided in the Data Requirements Rule.” The Petitioners failed to brief this issue adequately, and it is forfeited. *Roy v. City of Monroe*, 950 F.3d 245, 251 (5th Cir. 2020).

17-60088
c/w No. 21-60673

capriciously in its consideration of air quality monitoring data from the Longview airport.

Second, the Petitioners argue that the EPA erred by failing to give any weight to Luminant's model submitted during the public comment period. In the Petitioners' view, the EPA was required by its own regulations to assess the validity of Luminant's model before disregarding it in favor of Sierra Club's model. By failing to follow its own regulations, and thereby relying on that failure to designate Rusk and Panola counties as not attaining air quality standards for SO₂, the Petitioners aver the EPA acted unlawfully.

The EPA responds with two arguments. First, the Petitioners' explanation of the modeling approval process "wholly mischaracterizes" the regulations they argue the EPA failed to follow. Second, the EPA did analyze Luminant's modeling and rejected it for several reasons, because it

(a) improperly relied on unenforceable forecasted lower emissions, such as improving scrubber efficiency and fuel switches, instead of current actual higher emissions; (b) improperly assumed collateral reductions of SO₂ that Petitioners predicted would result from future restrictions on mercury emissions; (c) used unapproved model pre-processors AERLIFT and AERMOIST to adjust the measured stack temperatures and velocities to greatly enhance plume rise, even for instances when Luminant's phenomena theory indicated no adjustments should have been made and without demonstrating that such adjustments were appropriate at this facility, all of which likely resulted in large unsubstantiated changes in modeled concentrations compared to use of the measured data with the regulatory version of the model; and (d) misapplied meteorological dispersion and used unsubstantiated adjustments to wind speeds and direction (using unapproved and insufficiently supported beta options) that impacts air transport and generally lowers concentrations.

17-60088
c/w No. 21-60673

Our colleague in dissent concludes that the EPA's position is inconsistent with the text, structure, and context of the Guideline on Air Quality Models, and that the EPA's failure to follow its own assessment process violated the APA. Sierra Club argues that the EPA's regulations required the Petitioners to seek approval of their alternative modeling as "the user" before its use, the necessity of which was made clear by the EPA, and the Petitioners conceded they had not initiated or completed the Appendix W process. *See* 40 C.F.R. pt. 51, app. W. §§ 3.2.1a, 3.2.2b. Sierra Club also emphasizes that the EPA "devoted nearly 20 pages of its Response to Comments" and Technical Support Documents to provide "a detailed, highly technical response to Luminant's arguments." Sierra Club avers that the EPA acknowledged there was evidence to support Luminant's theory that Sierra Club's model overestimated SO₂ concentrations.

We start with the regulation. The Guideline on Air Quality Models "provides a common basis for estimating the air quality concentrations of criteria pollutants used in assessing control strategies and developing emissions limits." 40 C.F.R. pt. 51, app. W (preface). The Guideline provides recommendations "concerning air quality models and techniques, model evaluation procedures, and model input databases and related requirements" and "should be followed in air quality analyses" related to the CAA. *Id.* § 1.0.e. Though "the model or technique applied to a given situation should be the one that provides the most accurate representation of atmospheric transport, dispersion, and chemical transformations," the Guideline is also clear that "deviations from the Guideline should be carefully documented as part of the public record and fully supported by the appropriate reviewing authority", *id.*, to "promote consistency in model selection and application." *Id.* § 3.0.d.

Section 3 of the Guideline "specifies the approach to be taken in determining preferred models for use in regulatory air quality programs." *Id.*

17-60088
c/w No. 21-60673

§ 3.0.a. Relevant here, “[t]he section . . . provides the criteria and process for obtaining EPA approval for use of alternative models for individual cases.” *Id.* “If a model is required for a particular application, *the user* must . . . follow procedures in section 3.2.2 for use of an alternative model or technique.” *Id.* § 3.1.2.a (emphasis added). At that point, “[d]etermination of acceptability of an alternative model is an EPA Regional Office responsibility in consultation with the EPA’s Model Clearinghouse.” *Id.* § 3.2.2.a. An alternative model must “be evaluated from both a theoretical and performance perspective before it is selected for use.” *Id.* § 3.2.2.b; *see also id.* § 3.1.2.a. The Guideline then lists three conditions that an alternative model must meet before it can be approved by the EPA. *See id.* § 3.2.2.b.1–3.

The Guideline provides that “the user” must follow the procedures of Section 3.2.2 for use of an alternative model. *Id.* § 3.1.2. The parties here disagree as to whom “the user” refers to complete this process. Although the Guideline states that it “is intended for use by the EPA Regional Offices in judging the adequacy of modeling analyses performed by the EPA, state, local, and tribal permitting authorities, and by industry,” it also states that “[t]he Guideline serves to identify, for all interested parties, those modeling techniques and databases that the EPA considers acceptable.” *Id.* § 1.0.a. As it is used elsewhere in the regulation, “the user” invariably refers to the entity performing the analyses and referencing the Guideline.⁴

Each instance of “the user,” including that in Section 3.1.2, refers to an entity apart from the EPA in the context of steps the entity should take in selecting data, models, locations, etc., and in the context of the manuals and guides supplied for entities to describe model requirements and techniques.

⁴ The phrase “the user” is used 12 times in the Guideline. 40 C.F.R. pt. 51, app. W §§ 3.1.2.a, 4.2.1.3.b, 4.2.1.3.c, 7.2.1.1.d, 8.0.a, 8.2.2.e, 8.4.4.2.b.i.

17-60088
c/w No. 21-60673

See id. § 3.1.2, 4.2.1.3, 7.2.1.1, 8.0, 8.2.2, 8.4.2.4.2. Section 3.2.2’s acknowledgement that the EPA judges the adequacy of alternative models does not then invariably require the EPA to become the party responsible for performing the model analysis as well. It remains the party utilizing the models and verifying that the model sufficiently meets the requirements within Section 3.2.2.

Given the parties’ dispute regarding to whom “the user” refers, we must decide (1) whether the regulation is genuinely ambiguous, and if so, (2) whether the EPA’s interpretation is entitled to *Auer* deference because it is the agency’s reasonable reading of its own genuinely ambiguous regulations. *Auer v. Robbins*, 519 U.S. 452, 461 (1997). The Supreme Court clarified *Auer* deference in *Kisor v. Wilkie*, 139 S. Ct. 2400, 2414 (2019). The Court explained that *Auer* deference does not apply “unless the regulation is genuinely ambiguous.” *Id.* at 2415. “[I]f the law gives an answer — if there is only one reasonable construction of a regulation — then a court has no business deferring to any other reading.” *Id.* “[B]efore concluding that a rule is genuinely ambiguous, a court must exhaust all the ‘traditional tools’ of construction,” including careful consideration of “the text, structure, history, and purpose of a regulation.” *Id.* (citation omitted). If the regulation remains ambiguous, the agency’s interpretation will be upheld if it is reasonable. *Id.* at 2415–16.

We conclude there is no genuine ambiguity regarding “the user.” It is the party performing the analysis, *i.e.*, Luminant here. As earlier mentioned, this is most often how the phrase is used elsewhere in the Guideline. *See* 40 C.F.R. pt. 51, app. W §§ 4.2.1.3.b, 4.2.1.3.c, 7.2.1.1.d, 8.0.a, 8.2.2.e, 8.4.4.2.b.i.⁵ In further support of this reading, a previous version of

⁵ It is also consistent with the EPA’s interpretation of this regulation elsewhere. *See, e.g.*, Memorandum, Clarification on the Approval Process for Regulatory Application

17-60088
c/w No. 21-60673

the Guideline distinguishes between “the user” and the EPA Regional Office: “Model users may refer to guidance for further details concerning appropriate modeling approaches.” 40 C.F.R. pt. 51, app. W § 6.1.e (2005); *see also id.* § 5.2.e. Such a reading also serves the purpose of ensuring “consistency and encourage[s] the standardization of model applications,” because it promotes the use of models already approved by the EPA. *See* 40 C.F.R. pt. 51, app. W (2017) (preface).

The dissent asserts that instances of use and regulatory purpose cannot replace the regulations’ text and structure. We agree. The text and structure of a regulation is where the inquiry begins, but purpose is an additional consideration in determining possible ambiguity in a regulation. *Kisor*, 139 S. Ct. at 2415-16. Under this reading and utilization of “the ‘traditional tools’ of construction,” *id.*, the EPA did not act unlawfully in failing to consider Luminant’s model that was not approved “before it [was] selected for use” by Luminant, 40 C.F.R. pt. 51, app. W § 3.2.2.b.⁶

The Petitioners also suggest that the EPA acted arbitrarily and capriciously when it failed to evaluate Luminant’s model because it did “not know[]” if Luminant’s analysis was accurate or not. To the contrary, the EPA did consider Luminant’s modeling and rejected it on several grounds, including its failure to comply with the EPA’s Model Technical Advisory Document.

of the AERMOD Modeling System Beta Options (Dec. 10, 2015), *available at* https://www.epa.gov/sites/default/files/2020-10/documents/aermod_beta_options_memo-20151210.pdf.

⁶ The Petitioners argue that the EPA “points to nothing in the regulations that requires a third party to make such a submission” and boldly states, “there is none,” while completely neglecting Sierra Club’s argument.

17-60088
c/w No. 21-60673

The EPA assessed the validity of Luminant's modeling in detail when it rejected the model. The EPA stated that the model used by Luminant's contractor made large adjustments to the normal algorithms and were "not consistent with the theory of how the adjustments should be implemented." The modeling enhancements used in Luminant's model were found by the EPA to be "disproportionately large" and "very significant." There was no information provided to establish that the modeling results met the requirements to be used in a regulatory decision, and a proposed option utilized by the Luminant model has not been approved for EPA regulatory use. The "EPA believe[d] that the particular implementations of [Luminant's model] needs to undergo extensive review" before being used in a regulatory setting because of the inconsistencies with other acceptable models. The EPA determined that Luminant's model could not be relied on for designations, making it insufficient.

The EPA cited numerous reasons for its decision to reject Luminant's model, not accurately categorized as offering "barely any explanation" for its determination. *Encino Motorcars, LLC v. Navarro*, 579 U.S. 211, 222 (2016). As before, this is the type of technical decision regarding scientific analysis that we treat with the "most deferen[ce]." *BCCA Appeal Grp.*, 355 F.3d at 834. A contrary conclusion would put a high burden on the EPA to evaluate every model submitted during the comment period, where the party submitting the model did not seek approval of the model prior to its use, and it would frustrate the purpose of standardizing the model procedures. *See* 40 C.F.R. pt. 51, app. W (preface).

Third, the Petitioners argue the EPA acted arbitrarily and capriciously by relying on Sierra Club's modeling, despite its conclusion that the modeling did not exactly follow the EPA's guidance and contained errors. The Petitioners criticize the EPA for relying on Sierra Club's modeling that only "mostly followed" the EPA's modeling guidance. They assert that the

17-60088
c/w No. 21-60673

EPA later identified “significant limitations and uncertainties” with Sierra Club’s modeling, including the use of receptors that did not follow the EPA’s recommended locations and the failure to use variable stack temperatures or building downwash. In response, both the EPA and Sierra Club dedicate significant portions of their briefing in defense of the EPA’s decision to rely on Sierra Club’s modeling when it designated Rusk and Panola counties as nonattainment.

The EPA asserts it “found Sierra Club’s modeling sound and generally ‘in accordance with the best practices outlined in the Modeling [Technical Advisory Document],’ which was not the case with Luminant’s modeling.” The EPA explained the few cited instances where Sierra Club’s modeling deviated from EPA recommendations as (1) the information being unavailable for public use, making Sierra Club’s model a conservative underestimate, and (2) a less than 1% deviation in SO₂ concentrations would result with the added information, making Sierra Club’s 14% model maximum appropriate. Even altering Sierra Club’s model with inputs from Luminant’s model at the Petitioners’ request presented “no material change to the conclusion that SO₂ concentrations in Rusk/Panola counties violated the SO₂ NAAQS” as Sierra Club’s original model showed. The accuracy and reliability of Sierra Club’s model were proven through this assessment by the EPA.

“That a model is limited or imperfect is not, in itself, a reason to remand agency decisions based upon it.” *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1052 (D.C. Cir. 2001). Shortcomings must be significant: “An agency’s use of a model is arbitrary if that model ‘bears no rational relationship to the reality it purports to represent.’” *Columbia Falls Aluminum Co. v. EPA*, 139 F.3d 914, 923 (D.C. Cir. 1998) (quoting *American Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1005 (D.C.Cir.1997).

17-60088
c/w No. 21-60673

We often view the EPA's "evaluation of complex scientific data within its technical expertise" with great deference. *BCCA Appeal Grp.*, 355 F.3d at 824. This principle applies specifically in the context of the selection of air dispersion models. *Sierra Club v. EPA*, 939 F.3d 649, 653 (5th Cir. 2019). "We afford 'significant deference' to agency decisions involving analysis of scientific data within the agency's technical expertise. The EPA's selection of a model to measure air pollution levels is precisely that type of decision." *Id.* Similarly, in another case, we upheld the EPA's designation of counties as "attainment" under its modeling choice, despite Sierra Club's argument that the EPA "failed to articulate a rational connection between the facts in the record and its decision not to designate." *Texas v. EPA*, 983 F.3d 826, 841 (5th Cir. 2020).

Under this standard, the EPA's selection of Sierra Club's modeling, despite its acknowledged shortcomings, was neither arbitrary nor capricious. The EPA reviewed Sierra Club's 2015 modeling before issuing its designation and concluded it was adequate. Importantly, the EPA acknowledged and addressed the concerns raised by the Petitioners in their comments regarding the shortcomings of Sierra Club's modeling, and the EPA found that Sierra Club's modeling was "deliberately conservative" and "included several techniques which generally would tend to reduce/underestimate design value concentrations." Specifically, the EPA found Sierra Club's modeling was "conservative" because it used a low estimate of background SO₂ and did not include building downwash, variable stack temperature, and other potential sources of SO₂. To address the potential inadequacies of its models, Sierra Club conducted sensitivity modeling on another location, and the EPA stated there would be no change in its conclusions. There were no sufficient deviations in the comparison calculations nor in the variables about which Petitioners were concerned to suggest Sierra Club's modeling was inadequate. Using this comparison, the

17-60088
c/w No. 21-60673

EPA found Sierra Club’s modeling to be “a sufficient basis for a determination of nonattainment and clear[] demonstrat[ion that] the area around Martin Lake is nonattainment.”

The Petitioners argue the EPA erred when relying on Sierra Club’s sensitivity modeling, that was used for other locations, when the EPA was evaluating the efficacy of the Martin Lake model and for conceding that “we don’t know the exact impact” on the predicted SO₂ concentrations due to the identified shortcomings. The rest of the sentence clarifies the EPA’s reasoning: “the net difference to the exceedance values due to flagpole receptor height, updated surface characteristics, and more representative background would be an *overall increase* to the expected values.”

The fact that the EPA issued a Proposed Error Correction that could have reversed its designation does not alter the outcome. Any “proposed regulations are entitled to no deference until final.” *Howard Hughes Co. v. Comm’r*, 805 F.3d 175, 185 (5th Cir. 2015). Moreover, the fact that the EPA relied on Sierra Club’s updated 2019 modeling — as part of the requested reconsideration process — when it revoked its Proposed Error Correction does not alter our conclusions. As discussed, the EPA rationally explained its reliance on Sierra Club’s modeling in these designations and its choice is entitled to deference under this court’s precedent at the time of its nonattainment designations. Therefore, we need not reach the issue of whether the later modeling served to “illuminate[] the reasons that are [already] implicit in the original decision” as suggested by the EPA. *See Rhea Lana, Inc. v. U.S. Dep’t of Labor*, 925 F.3d 521, 524 (D.C. Cir. 2019).⁷

⁷ In the Petitioners’ reply brief, they raise a new argument that *BCCA Appeal Group* requires the EPA to conduct validation testing of its models against real-world data. Because this argument was not raised in their opening brief, it is forfeited. *See, e.g., Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1033 (5th Cir. 2008).

17-60088
c/w No. 21-60673

Fourth, the Petitioners argue that the EPA's reliance on Sierra Club's modeling is contrary to the language of the CAA. The Petitioners argue that the EPA's designation of portions of Rusk and Panola counties as nonattainment renders the category of "unclassifiable" superfluous because, at the time of designation, the available information was inconclusive as to whether the "county does or does not meet the NAAQS." *Texas v. EPA*, 983 F.3d at 838.

"It is 'a cardinal principle of statutory construction' that 'a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant.'" *United States v. Lauderdale Cnty.*, 914 F.3d 960, 966 (5th Cir. 2019) (quoting *TRW Inc. v. Andrews*, 534 U.S. 19, 31 (2001)). An area may be designated as "unclassifiable" if it "cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant." 42 U.S.C. § 7407(d)(1)(A)(iii). The Petitioners' suggestion that the EPA rendered this provision superfluous is unsupported by the record. In the EPA's 2016 Designations for Four Areas in Texas, the EPA classified Milam County as unclassifiable because it could not determine whether the area met the 2010 SO₂ air quality standards. Supplement to Round 2 for Four Areas in Texas, 81 Fed. Reg. at 89,873.

In their reply brief, Petitioners abandon their argument that the EPA's decision rendered the "unclassifiable" designation superfluous. Instead, they present a new argument that the EPA's decision to disregard Luminant's modeling and the monitoring data violated the "plain statutory language" of the CAA. "Arguments not raised by a party in its opening brief are deemed waived." *Friends of Yosemite Valley*, 520 F.3d at 1033. Thus, the Petitioners' argument that the EPA acted contrary to the "plain statutory language" of the CAA is forfeited.

17-60088
c/w No. 21-60673

The EPA did not act arbitrarily, capriciously, or in an unlawful manner in designating Rusk and Panola counties as not attaining air quality standards. Thus, the EPA did not violate either the APA or the CAA.

II. Treating like cases alike.

The Petitioners argue the EPA failed to “treat like cases alike” when it relied on Sierra Club’s modeling for the designation of Rusk and Panola counties, because the EPA had rejected Sierra Club’s modeling in designating other counties when presented with conflicting models. They argue that this “disparate treatment” requires vacatur of the designation of Rusk and Panola counties as nonattainment. We disagree.

We have previously stated that “[i]t is a bedrock principle of administrative law that an agency must ‘treat like cases alike.’” *University of Tex. M.D. Anderson Cancer Ctr.*, 985 F.3d at 479. “Unexplained inconsistency is . . . a reason for holding [agency action] to be . . . arbitrary and capricious.” *National Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005). “[T]he requirement that an agency provide reasoned explanation for its action . . . ordinarily demand[s] that it display awareness that it is changing position [and] . . . must show that there are good reasons for the new” position. *Fox*, 556 U.S. at 515 (emphasis omitted).

The EPA argues the Petitioners failed to raise this argument in their comments, thereby failing to exhaust the issue. “Absent exceptional circumstances, a party cannot judicially challenge agency action on grounds not presented to the agency at the appropriate time during the administrative proceeding.” *Louisiana Env’t Action Network v. EPA*, 382 F.3d 575, 584 (5th Cir. 2004). “Objections must be prominent and clear enough to place the agency ‘on notice,’ for [the] EPA is not required ‘to cull through all the letters it receives and answer all the possible implied arguments.’” *National Ass’n of Clean Air Agencies v. EPA*, 489 F.3d 1221, 1231 (D.C. Cir. 2007).

17-60088
c/w No. 21-60673

Here, the Petitioners submitted comments to the EPA stating that it inappropriately relied upon Sierra Club's modeling for the designation of Rusk and Panola counties when it rejected Sierra Club's monitoring for other counties. They presented no argument that the designation of Rusk and Panola counties was inconsistent with the designations for Gallia County, Lancaster County, and Independence County. They only mentioned the designation of these counties in two footnotes without discussion. Given that "[t]he designations are based on . . . [a] highly fact specific and particularized" inquiry, *Texas v. EPA*, 706 F. App'x at 165, and comparisons would therefore likewise require such a fact specific inquiry, the Petitioners did not exhaust these arguments at the agency level, *See Louisiana Env't Action Network*, 382 F.2d at 584.

III. The EPA did not misconceive the law and its statutory authority.

Finally, the Petitioners argue that the EPA "misconceived the law" when it stated that "the agency does not have the discretion to await the results of future monitoring." The Petitioners assert that the EPA had the authority to designate the area as "unclassifiable" and allow the State of Texas to collect additional monitoring data in order to "more accurately characterize air quality in the area." Further, according to the Petitioners, the EPA erroneously believed that it "was compelled to issue a nonattainment designation for Rusk and Panola Counties" based on Sierra Club's modeling by the consent decree's deadline.

"Where a statute grants an agency discretion[,] but the agency erroneously believes it is bound to a specific decision, we cannot uphold the result as an exercise of the discretion that the agency disavows, . . . and the regulation must be declared invalid, even though the agency might be able to adopt the regulation in the exercise of its discretion." *American Lung Ass'n v. EPA*, 985 F.3d 914, 995 (D.C. Cir. 2021) (quotation marks and citations

17-60088
c/w No. 21-60673

omitted), *rev'd and remanded on other grounds*, *West Virginia v. EPA*, 142 S. Ct. 2587 (2022). That is so because “that error prevent[s] [the agency] from a full consideration of the statutory question . . . presented.” *Negusie v. Holder*, 555 U.S. 511, 521 (2009).

The Petitioners do not cite specific provisions of the CAA. Presumably, they rely on 42 U.S.C. § 7407(d)(1), identifying the three designations for areas as “nonattainment,” “attainment,” or “unclassifiable.” As discussed above, Section 7407(d)(1)(B) requires the EPA to issue designations “as expeditiously as practicable,” but no later than three years after issuing or modifying a NAAQS and provides that the EPA “*may* make such modifications as the Administrator *deems necessary*.” *Id.* § 7407(d)(1)(B) (emphasis added). We have previously discussed Section 7407(d)(1)(B) as allowing the EPA to change designations, which suggests agency discretion. *See Texas v. EPA*, 983 F.3d at 838 (“[T]he Clean Air Act [oes], indeed, allow EPA to change [a county’s] designation to nonattainment.”).

The Petitioners do not, however, explain what aspect of the CAA the EPA misconceived when it concluded it did not have the discretion to await additional monitoring data before issuing its designation. It is possible that the Petitioners are relying on the fact that Section 7407(d)(1)(B) says the EPA “may” modify the State’s designations proposal, though they do not explicitly argue this. If this is the case, and the EPA concluded it was required to designate the area as “nonattainment” based on the available modeling under the CAA or the consent decree, then perhaps the Petitioners would have a point. But, as discussed, the EPA did not appear to hold such a belief.

A closer look at what the EPA said undermines the Petitioners’ view that the EPA erroneously believed it could not designate the area as “unclassifiable” based on the CAA or the consent decree. The EPA’s

17-60088
c/w No. 21-60673

position was that it did not “have the discretion to await the results of future monitoring” before “*designat[ing]*” the areas. Proposed Error Correction, 86 Fed. Reg. at 34,189 n.11 (emphasis added). As provided in Section 7407(d)(1)(B), the EPA has a statutory deadline to promulgate the designations of all areas submitted by the States. In *Sierra Club v. McCarthy*, the EPA was found to be in violation of that deadline, and the parties entered the consent decree to remedy that violation. 2015 WL 889142, at *1; *see also Sierra Club*, 868 F.3d at 1069. So, the EPA was correct that they did not have the authority to wait for future monitoring data before *designating* the areas.

The Petitioners’ argument that the EPA did have the legal authority “to consider in its designation of Rusk and Panola counties the monitoring data that Texas would collect under the Data Requirements Rule” also misses the mark. “Context makes it clear in this case that the designation process considers only the present tense. The text of the [CAA] provides that a state must designate an area nonattainment if it ‘does not meet’ the NAAQS.” *Texas v. EPA*, 983 F.3d at 838 (quoting 42 U.S.C. § 7407(d)(1)(A)(i)). As such, the EPA may change a state’s recommended designation based only on currently available data. *Id.* Even though the EPA had the discretion to designate the area as “unclassifiable,” nothing the Petitioners point to compelled the EPA to do so.

This is not a case where the EPA “erroneously believe[d] it [wa]s bound to a specific decision” based on an erroneous interpretation of the law. *American Lung Ass’n*, 985 F.3d at 995. The EPA’s designation is not to be vacated on this ground. The petitions for review are DENIED.

17-60088
c/w No. 21-60673

JENNIFER WALKER ELROD, *Circuit Judge*, dissenting:

Invoking the phrases “scientific judgment” and “technical expertise” does not discharge the Government’s obligations under the Administrative Procedure Act. I do not deny that federal agencies have expertise and should use their best judgment. But all too often, agencies cite their technical knowledge in an attempt to fend off judicial scrutiny into their decision making. One can almost see the shrouded bureaucrat, who, sensing danger, waives his hand and murmurs: “These aren’t the APA violations you’re looking for.” The agency’s desired response: “Move along. Move along.”

I am not content to do so. The record before us shows that EPA committed at least three errors when it designated Rusk and Panola Counties as non-attainment for purposes of the 2010 Sulfur Dioxide NAAQS. It accepted Intervenor Sierra Club’s air-dispersion model, despite the conceded limitations of that model. It failed to consider data from its own air-quality monitor, even though that data conflicted with the Sierra Club’s model. And it rejected a competing model submitted by Petitioner Luminant Generation Company, in violation of regulations that required EPA to consider it.

The panel majority denies relief, reasoning that we should defer to EPA given the technical nature of the controversy. *Ante* at 13; *see also id.* at 16 (holding that EPA’s non-attainment designation warrants the “most deference”). It upholds the decision, even though, in the majority opinion’s words, it was only “most likely adequate.” *Id.* at 17; *see also id.* (“plausible”).

EPA’s good-enough-for-government-work approach takes agency deference too far. On multiple occasions, it failed to consider “an important aspect of the problem,” or offered an explanation “that r[an] counter to the evidence before” it. *Motor Vehicle Mfrs. Assoc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). No amount of scientific expertise can cure those procedural errors. I respectfully dissent.

17-60088
c/w No. 21-60673

I

For the most part, I agree with the standard of review set forth in the majority opinion. The APA instructs reviewing courts to “set aside” actions determined to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2). I agree with the court that we do not “substitute [our] judgment for that of the agency.” *Ante* at 13 (quoting *Clean Water Action v. EPA*, 936 F.3d 308, 316 (5th Cir. 2019)). After all, agency action need only be “reasonable and reasonably explained.” *FCC v. Prometheus Radio Project*, 141 S. Ct. 1150, 1158 (2021).

I likewise agree that the APA is “not toothless.” *Ante* at 13 (quoting *Sw. Elec. Power Co. v. EPA*, 920 F.3d 999, 1013 (5th Cir. 2019)). On the contrary, the Act demands that federal courts inquire into whether the agency has made “a clear error of judgment.” *Mexican Gulf Fishing Co. v. U.S. Dep’t of Com.*, 60 F.4th 956, 971 (5th Cir. 2023) (quoting *Texas v. EPA*, 983 F.3d 826, 835 (5th Cir. 2020)). We must set aside agency action where the decision lacks a “rational connection between the facts found and the choice made,” *State Farm*, 463 U.S. at 43, or the agency’s explanation contains “significant shortcomings.” *All. for Hippocratic Med. v. FDA*, 78 F.4th 210, 2023 WL 5266026, at *22 (5th Cir. Aug. 16, 2023) (quoting *Sw. Elec. Power Co.*, 920 F.3d at 1018–19). Especially when an agency reversed a previous position, an “[u]nexplained inconsistency” between the new policy and the old one is a telltale sign of unlawful action. *Encino Motorcars, LLC v. Navarro*, 579 U.S. 211, 222 (2016) (quoting *Nat’l Cable & Telecommunications Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005)).

And I do not dispute that agencies—not courts—are the proper bodies to examine and evaluate “complex scientific data.” *BCCA Appeal Grp. v. EPA*, 355 F.3d 817, 824 (5th Cir. 2003). After all, we are judges, not engineers or scientists. But I seriously doubt that an agency should be given extra

17-60088
c/w No. 21-60673

deference just because the case involves a technical subject. If we must give EPA “great deference,” *ante* at 23, does that mean that its decision is arbitrary and capricious only if it is *greatly* unreasonable? *See also* EPA Br. at 48 (requesting an “extraordinary level of deference”). Neither the APA nor the Supreme Court’s interpretation of it establishes any such distinction.¹

Instead, we should simply ask the same question we ask in any other APA case. Did the agency fail to address any important consideration? *See State Farm*, 463 U.S. at 43. Are there significant gaps in its explanation? *See Encino Motorcars*, 579 U.S. at 222; *Sw. Elec. Power Co.*, 920 F.3d at 1018–19. If the answer to either question is “yes,” then the action is arbitrary and capricious—technical expertise aside. The double-deference EPA seeks here would frustrate any sort of meaningful agency review.

Nor is this the first time that a federal agency has tried to shore up its decision making by leaning on its “technical expertise” rather than facts and studies. EPA Br. at 46; *id.* at 7 (characterizing the non-attainment designation as “EPA’s highly technical and data-driven decision”). Actually, the Government has made such arguments to this court with increasing frequency. *See* Br. for Appellee at 47, *El Paso Elec. Co. v. FERC* (5th Cir. May 23, 2022) (No. 18-60575) (insisting that we defer to FERC’s “expert judgment”); Br. for Appellee at 14, *Wages & White Lion Inv. v. FDA* (5th Cir. Dec. 17, 2021) (No. 21-60766) (arguing that FDA’s action was reasonable because the agency “conduct[ed] a scientific review”); En Banc Br. for Appellee at 10, *Wages & White Lion Inv. v. FDA* (5th Cir. Mar. 24, 2023) (No. 21-60766)

¹ To be sure, in *BCCA Appeal Group*, our court stated that we should be “most deferential” to agencies in cases involving “complex scientific data within [the agency’s] expertise.” 355 F.3d at 824 (citation omitted). But that case is best read as stressing the need for ordinary deference in technical cases. It does not stand for the proposition that we should afford the Government a heightened level of deference simply because the agency action involved math or science.

17-60088
c/w No. 21-60673

(asking the court to defer to “scientific determinations regarding risks and benefits”); Br. for FDA at 1, *All. for Hippocratic Med. v. FDA* (5th Cir. Apr. 26, 2023) (No. 23-10362) (describing the district court’s injunction as “an unprecedented order countermanding [FDA’s] scientific judgment”).

Simply put, an agency’s subject-matter expertise does not insulate it from making mistakes. On the contrary, agencies can—and do—make mistakes all the time. See *All. for Hippocratic Med.*, 2023 WL 5266026 at *45–47 (Ho, J., concurring in part and dissenting in part). That is not to say that courts should “substitute [their] judgment” for an agency’s. *Clean Water Action*, 936 F.3d at 316. But we must not defer to agencies so much that we fail to recognize violations of the law.

II

Applying the proper standard of review, I would hold that EPA’s action was arbitrary and capricious in three respects.

A

First, EPA refused to use its own air-quality data to cross check the Sierra Club’s model. The parties agree that EPA based its non-attainment designation solely on the air-dispersion model submitted by the Sierra Club. As such, that model’s reliability was of the utmost importance.

But when faced with evidence that the model was significantly inaccurate, EPA did nothing. EPA operates a physical air-quality monitor in Gregg County that is approximately nineteen kilometers away from Luminant’s Martin Lake power plant. For the relevant time period, EPA’s monitor measured a SO₂ concentration of 50 ppb, well below the 75 ppb legal limit. By contrast, the Sierra Club’s model predicted a maximum concentration at the same location of 145 ppb—nearly triple the amount registered by EPA’s monitor. EPA disregarded its measured data, reasoning that the distance

17-60088
c/w No. 21-60673

from its monitor to the power plant was too great to rule out the possibility that Rusk and Panola Counties were in non-attainment. It also declined to scrutinize the Sierra Club's model in light of its own data.

I would conclude that EPA's decision not to compare its monitoring data against the Sierra Club's model violates the APA. It is uncontested that the Sierra Club's model predicted an SO₂ concentration at the location of the Gregg County monitor of almost triple the actual boots-on-the-ground measurement. That fact alone suggests (but does not prove) that the Sierra Club's model was not entirely accurate. When faced with this evidence, EPA neither stress-tested the Sierra Club's model with its air-quality data, nor adequately explained why it declined to do so. Through this inaction, EPA failed "to consider an important aspect of the problem," and therefore violated the APA. *State Farm*, 463 U.S. at 43.

Here, the offending action was failing to investigate the cause of a known discrepancy—a *procedural* error. I express no opinion on the *substantive* question: whether the known discrepancy ultimately showed that the Sierra Club's model was unreliable. And there certainly might have been an acceptable explanation for why the concentration predicted by the Sierra Club's model deviated from EPA's measured data so notably. In any event, it is not our place to wade into those technical waters. *See BCCA Appeal Grp.*, 355 F.3d at 824.

But the problem for EPA is that it did not even try to assess whether the discrepancy called the accuracy and reliability of the Sierra Club's model into question. That kind of omission violates the APA, as we have explained on multiple occasions. *See Sw. Elec. Power. Co.*, 920 F.3d at 1020 (holding that EPA acted arbitrarily by professing a lack of data when it could have investigated new evidence presented it); *American Petroleum Inst. v. EPA*, 661 F.3d 340, 357 (5th Cir. 1981) (same).

17-60088
c/w No. 21-60673

In defense, EPA contends that a comparison of its monitoring data to the Sierra Club's model would be "meaningless." But on the contrary, we have previously emphasized the probity of comparing a "model's predictions with actual air quality data." *BCCA Appeal Grp.*, 355 F.3d at 824. The majority opinion dismisses the value of such comparisons because "it is unclear how helpful it would be to compare the model's performance here to data collected by a single monitor." *Ante* at 16. But EPA did not claim that data from one monitor was insufficient, and, as the majority opinion rightly explains, "the reviewing court may not supply a reasoned basis for the agency's action that the agency itself has not given." *Id.* at 13 (internal quotations and citation omitted).

Instead, EPA stressed the unremarkable fact that the Gregg County monitor is unlikely to capture the greatest SO₂ concentrations produced by the Martin Lake power plant. The majority opinion likewise latches on to this proffered justification. *Ante* at 17. But that justification is nonresponsive to Petitioners' argument that the agency ought to have investigated why its own monitoring data was vastly different than the concentration predicted by the Sierra Club's model.² I therefore cannot say that EPA adequately

² In addition, EPA contends that it actually relied on an updated version that the Sierra Club submitted during notice and comment. That version, the Sierra Club points out, used actual emissions instead of allowable emissions (*i.e.*, maximum expected emissions) and as such predicted a concentration at the Gregg County monitor less than the value predicted by the previous version. But those arguments miss the point. The point is that EPA had data suggesting that the Sierra Club's model was inaccurate, perhaps significantly so. The fact that a new version of the model better comported with the actual data is only reassuring if the initial discrepancy can be attributed to the change between the old version and the new version. In other words, absent an explanation that the old version was inaccurate because it used allowable emissions instead of actual emissions, the new version may be masking the problem, rather than fixing it. And in any event, as the Petitioners observe, "neither the government nor Sierra Club argues that the other version of Sierra Club's modeling did not *also* overstate SO₂ concentrations at the [Gregg County] monitor." Pet. Reply Br. at 5 n.1. To the extent that the new version also conflicted with

17-60088
c/w No. 21-60673

considered its monitoring data.

We often defer to an agency’s conclusion on technical questions, but the agency cannot ignore a significant issue and then hide behind its expertise. *See, e.g., Texas v. Biden*, 10 F.4th 538, 556 (5th Cir. 2021) (“[A]n agency’s ‘experience and expertise’ presumably enable the agency to provide the required explanation, but they do not substitute for the explanation”) (quoting *CS Wind Vietnam Co. v. United States*, 832 F.3d 1367, 1377 (Fed. Cir. 2016)). On this record, I would conclude that EPA violated the APA because it failed to investigate the cause of the inconsistency between its own air-quality data and the Sierra Club’s model.

The majority opinion gives EPA’s decision its “most deference,” and concludes that EPA’s “explanation for its reliance on Sierra Club’s modeling . . . was most likely adequate.” *Ante* at 17. But it hardly addresses Petitioners’ arguments to the contrary. Moreover, in failing to scrutinize EPA’s decision-making process, the majority opinion overlooks a clear procedural error. I would hold that EPA’s failure to consider the inconsistency between its data and the Sierra Club’s model was arbitrary and capricious.

B

Second, EPA erred by declining to consider Luminant’s proposed competing model. During the review process, EPA conceded that Luminant’s model, which contained many site-specific refinements, might show a significantly different result than the one predicted by the Sierra Club’s model. But the agency did not accept the model because, in EPA’s view, Luminant failed to follow the procedure for submitting new models. EPA therefore did not assess the accuracy of Luminant’s model or compare the

EPA’s air quality data—even if to a lesser degree—the agency could have cross-checked its data with the model to ensure the latter’s reliability.

17-60088
c/w No. 21-60673

new model to the one submitted by the Sierra Club. The panel majority agrees with EPA, concluding that an agency regulation did not obligate EPA to review Luminant's model.

1

That position is inconsistent with the text, structure, and context of the regulation, which is entitled “Guideline on Air Quality Models.” 40 C.F.R. pt. 51 app. W. I start, as always, with the text. As an initial matter, the Guideline states that agency employees—not regulated entities—are responsible for implementing its regulations. *See id.* § 1.0(a) (“[T]he Guideline is intended *for use by the EPA Regional Offices* in judging the adequacy of modeling analyses performed by the EPA, by state . . . permitting authorities, and by industry.”) (emphasis added); *id.* § 3.2.2(a) (“Determination of acceptability of an alternative model is an EPA Regional Office responsibility . . .”).

Next, the Guideline turns to the general subject of alternative models. It stresses that different models will be needed for different circumstances because there “is no one model capable of properly addressing all conceivable situations.” *Id.* § 1.0(c); *see also id.* § 3.2.1(a) (“A simple listing of models in this Guideline cannot alone . . . necessarily provide the best model for all possible situations.”). And so although EPA might adopt certain preferred models for general applications, different models will be necessary for specific cases. *Id.* § 1.0(e) (“Recommendations are made in the Guideline concerning air quality models,” with “[s]pecific models . . . identified for particular applications,” but the agency “may approve the use of an alternative model or technique that can be demonstrated to be more appropriate than those recommended in the Guideline.”). The lodestar of a good model—in EPA’s words—is its suitability to a specific use. *See id.* (“In all cases, the model or technique applied to a given situation should be the one that provides the most accurate representation of atmospheric transport, dispersion,

17-60088
c/w No. 21-60673

and chemical transformations in the area of interest.”). The Guideline then reiterates that “[s]election of the best model or techniques for each individual air quality analysis is always encouraged.” *Id.* § 3.2.1(a)

After that, the Guideline sets forth a process for assessing alternative models. *See generally id.* §§ 2.0, 3.0, 3.2, 3.3. At a high level, the procedures entail consultation between the EPA Regional Office and “the EPA’s Model Clearinghouse”—the subagency that “serve[s] a central role of coordination and collaboration between EPA headquarters and the EPA Regional Offices.” *Id.* §§ 3.0(b), 3.2.1(a)–(b), 3.2.2(a), 3.3(a). This intra-agency approval process is mandatory. *See id.* § 3.0(b) (“For all approvals of alternative models or techniques, the EPA Regional Office will coordinate and shall seek concurrence with the EPA’s Model Clearinghouse.”).

The text of the Guideline clearly places the responsibility on EPA to analyze submitted alternative models. It describes a process whereby models are submitted to the agency and reviewed internally. And the Guideline directly states that the final determination of a model’s acceptability “is an EPA Regional Office responsibility.” *Id.* § 3.2.2(a). Accordingly, we must conclude that EPA was required to initiate its review process upon receipt of Luminant’s model. EPA, for its part, does not seriously dispute this conclusion. *Resp. Br.* at 35–36. Instead, it objects that Luminant failed to submit certain technical information on the modeling refinements AERLIFT and AERMOIST. But nothing in the Guideline requires submitting parties to provide such information. And in any event, Luminant *did* submit dozens of pages of technical analysis of its model, including statistical performance evaluations and research supporting those evaluations. EPA failed to request any additional information.

The Sierra Club denies that EPA was required to assess the alternative model, arguing that Luminant was required to complete various pre-approval

17-60088
c/w No. 21-60673

steps. This argument turns on two Guideline provisions. The first provision clarifies that, where a model is necessary, either a standard model or an alternative model may be used. *See* 40 C.F.R. pt. 51 app. W § 3.1.2(a) (“If a model is required for a particular application, the user must select a model from appendix A or follow procedures in section 3.2.2 for use of an alternative model or technique.”). The second provision requires that an alternative model be tested before being accepted for use. *See id.* § 3.2.2(b) (“An alternative model shall be evaluated from both a theoretical and a performance perspective before it is selected for use.”). Here, the Sierra Club asserts, the relevant user is Luminant, and so Luminant, not EPA, was required to assess its model and provide EPA with various technical information before the agency was required to consider using the alternative model.

The text, structure, and context of the Guideline reject that reading. Plainly, the definition of the word “user” as used in section 3.1.2(a) includes EPA. That section directs the “user” to follow the procedures enumerated in section 3.2.2. And who does the Guideline oblige to follow those procedures? EPA. *See* 40 C.F.R. pt. 51 app. W § 3.2.2(a) (“Determination of acceptability of an alternative model is an EPA Regional Office responsibility in consultation with the EPA’s Model Clearinghouse as discussed in paragraphs 3.0(b) and 3.2.1(b).”). Recall that section 3.2.2(b) requires that a technical evaluation be performed before an alternative model is accepted. Of course, that provision falls under section 3.2.2. It is thus clear from the structure of the Guideline that EPA must conduct the evaluation.

True, the Guideline uses the word “user” elsewhere to refer to the entity developing the model for use. But it is clear from the context of those provisions that the word is used in a different sense. *See id.* § 4.2.1.3(b) (“For applications involving CTSCREEN . . . data must be preprocessed to provide hill shape parameters in suitable input format. The user then supplies receptor locations either through an interactive program that is part of the model

17-60088
c/w No. 21-60673

or directly, by using a text editor”); *id.* § 7.2.1.1(d) (“For applications of AERMOD in urban areas . . . the user needs to estimate the population of the urban area affecting the modeling domain because the urban influence in AERMOD is scaled based on a user-specified population.”).

Those provisions describe the highly technical ins and outs of model usage, not the alternative-model approval process. Of course, there is nothing unusual about a word having different meanings in different contexts. *See Moreland v. Bureau of Prisons*, 431 F.3d 180, 188 (5th Cir. 2005) (“[T]he same phrase may be used to refer to different things, even in the same statute, and each time the phrase’s meaning must be derived from its context.”); *Buttrey v. United States*, 690 F.2d 1170, 1175 (5th Cir. 1982) (“It is . . . very possible ‘for a term to have different meanings, even in the same statute.’”) (quoting *Env’t Def. Fund, Inc. v. Costle*, 631 F.2d 922, 927 (D.C. Cir. 1980)). In this case, the context of and 3.2.2 and 3.2.2(b) clarify that the word “user” as used in section 3.2.1(a) includes the EPA.

In agreeing with EPA’s preferred interpretation, the majority opinion relies on the fact that the word “user” is mentioned elsewhere to refer to regulated entities, and reasons that its interpretation is consistent with EPA’s regulatory “purpose.” *Ante* at 21. But instances of use and regulatory purpose are poor tools for statutory construction.³ They cannot replace the regulation’s text and structure, which show that the Guideline intends for EPA to be the “user” who accepts submitted models and assesses their validity.

I would hold that EPA contradicted its regulations when it declined to

³ The majority opinion points to *Kisor v. Wilkie*’s requirement that a court exhaust all tools of interpretation, including purpose, before deferring to an agency’s interpretation. *Ante* at 22 (citing 139 S. Ct. 2400, 2415 (2019)). I agree. But that purpose may be considered when other tools of interpretation have failed does not make it comparatively strong evidence where, as here, the text and structure provide the answer.

17-60088
c/w No. 21-60673

review Luminant’s model. It necessarily follows that EPA violated the APA. That “an agency must abide by its own regulations” is a well-established tenet of administrative law. *Fort Stewart Schs. v. Fed. Lab. Rels. Auth.*, 495 U.S. 641, 654 (1990); *see Am. Petroleum Inst. v. EPA*, 787 F.2d 965, 975 (5th Cir. 1986) (“It is elementary administrative law that an agency must operate within the confines of its own regulations.”). This inconsistency requires vacatur. *Cargill v. Garland*, 57 F.4th 447, 472 (5th Cir. 2023) (*en banc*); *Gulf States Mfrs., Inc. v. NLRB*, 579 F.2d 1298, 1308 (5th Cir. 1978).

2

EPA’s inaction violates the APA for an additional reason. In failing to assess a model it admitted might support a significantly different conclusion, EPA once more ignored “an important aspect of the problem.” *State Farm*, 463 U.S. at 43; *see also Wages & White Lion Inv. v. FDA*, No. 21-60766, slip op. at *20–21 (5th Cir. 2023) (*en banc*) (finding it was arbitrary and capricious for agency to not consider material it previously stated was “critical”). Even though Petitioners strenuously questioned the reliability of the Sierra Club’s model, EPA declined to investigate if Luminant’s model predicted the relevant SO₂ concentrations more accurately. This failure to investigate violates the APA for the same reason as EPA’s refusal to compare its air-quality data to the Sierra Club’s model. *Sw. Elec. Power Co.*, 920 F.3d at 1020; *Am. Petroleum Inst.*, 661 F.3d at 357. At the end of the day, even though EPA did “not know[]” if Luminant’s model was accurate, and even though the agency had the tools at its disposal to analyze the model and find out for sure, it decided against initiating review of the model. That decision is arbitrary and capricious.⁴

⁴ EPA contends in the alternative that it *did* review Luminant’s model, but rejected it because it included certain unenforceable emissions reductions. Petitioners counter, however, that Luminant proposed two models—one that used future emissions, and one

17-60088
c/w No. 21-60673

The majority opinion discusses flaws that EPA identified in Luminant's model without considering how those flaws compared to those alleged with the Sierra Club's model. Once again, agency deference is invoked. *Ante* at 23 (“As before, this is the type of technical decision regarding scientific analysis that we treat with the ‘most deferen[ce].’”) (quoting *BCCA Appeal Grp.*, 355 F.3d at 834). Just like the issue with EPA's air-quality monitor, the deference the majority opinion applies neutralizes the APA's protections. Where an agency has failed to consider an essential aspect of the problem, no amount of technical expertise or scientific judgment should rescue it.

C

Third, I would hold that the record before EPA did not support the conclusion that Rusk and Panola Counties failed to attain the 2010 SO₂ NAAQS. As an initial matter, the parties disagree about the applicable standard of review for EPA's attainment designation. The Petitioners argue that EPA was required to designate Rusk and Panola Counties as unclassifiable because “the available information before EPA did not *clearly demonstrate* that the area was in nonattainment.” Petitioners Br. at 22 (emphasis added). As support for this assertion, they point to a guidance document issued by EPA, which sets forth the agency's intended procedure for area designations. Specifically, the agency explained that, “in the absence of information clearly demonstrating a designation of ‘attainment’ or ‘non-attainment,’ it “intends to designate the area as ‘unclassifiable.’” U.S. Environmental Protection Agency, Updated Guidance for Area Designations for the 2010 Primary Sulfur National Ambient Air Quality Standard, at 5 (Mar. 20, 2015). The Sierra Club, for its part, appears to accept this framing of the issue.

that used current emissions. EPA failed to analyze either model, and so cannot avoid the conclusion that it ignored a potentially more accurate model.

17-60088
c/w No. 21-60673

In at least one respect, EPA agreed that the standard of review applies; it used such language in responding to objections made during the notice-and-comment period for the proposed final designations. *See* U.S. Environmental Protection Agency, Responses to Significant Comments on the Designation Recommendations for the 2010 Sulfur Dioxide National Ambient Air Quality Standards (NAAQS), at 21 (Nov. 29, 2016) (concluding “from our evaluation that the modeling clearly demonstrates there is an area of non-attainment”); *id.* at 40 (finding that it was “clearly necessary” to designate the areas as non-attainment). But on appeal, EPA denies that the standard applies, observing that the guidance cautions that it “is not binding on the states, tribes, the public or the EPA.” Updated Guidance at 6.

Our precedents make clear that some guidance documents are binding for purposes of the APA, and some are not. *See Texas v. EEOC*, 933 F.3d 433, 441–42 (5th Cir. 2019). In telling the difference, we consider whether it “appears on its face to be binding[] or is applied by the agency in a way that indicates it is binding.” *Fort Bend Cnty. v. U.S. Army Corps of Engrs.*, 59 F.4th 180, 200 (5th Cir. 2023) (citation and internal quotation marks omitted). It is not immediately clear whether the Updated Guidance is binding according to how we use that word in our caselaw; *i.e.*, that it is an action “by which rights or obligations have been determined, or from which legal consequences will flow.” *Texas*, 933 at 441 (quoting *Bennett v. Spear*, 520 U.S. 154, 177–78 (1997)). Supposing that it is not, it does not follow that the guidance is irrelevant to our analysis. At bottom, agency action is arbitrary if the agency fails to adequately explain its decision. *State Farm*, 463 U.S. at 43. That principle logically applies to a decision not to apply agency guidance, even if unbinding.

I would conclude that, in this case, we must apply the clearly-demonstrate standard elaborated in the Updated Guidance. Said another way, it would be arbitrary and capricious for EPA to tell the states that it intended to require clear evidence to designate an area as non-attainment, but fail to apply

17-60088
c/w No. 21-60673

that standard in practice (and offer no explanation as to why not). To thereby “move the scientific goalposts” while “refus[ing] to specify the new scientific goal line” is to turn the administrative process into one “governed not by science but by diktat.” *Wages & White Lion*, No. 21-60766, slip op. at *33.

To be sure, an agency has discretion to amend or repeal its prior policy statements and nonbinding guidance documents. *See Texas*, 933 F.3d at 441–42. But it still must explain its decision to do so—especially where the guidance may affect the agency’s determination of the public’s regulated entities’ legal rights. *Encino Motorcars*, 579 U.S. at 221 (“[T]he agency must at least ‘display awareness that it is changing position’ and ‘show that there are good reasons for the new policy.’”); *Wages & White Lion*, No. 21-60766, slip op. at *40 (even though agency “guidance documents had all manner of disclaimers, qualifiers, and cautionary language,” agency could not “chang[e] its position without acknowledging the change”); *Sierra Club v. EPA*, 939 F.3d 649, 664 n.76 (5th Cir. 2019) (“[W]hen an agency takes inconsistent positions . . . it must explain its reasoning.”) (quoting *Gulf Power Co. v. FERC*, 983 F.2d 1095, 1101 (D.C. Cir. 1993)); *accord Comcast Corp. v. FCC*, 526 F.3d 763, 769 (D.C. Cir. 2008) (“[A]n agency’s unexplained departure from precedent must be overturned as arbitrary and capricious.”). Similarly, an agency must give notice of the methodology it intends to use in reaching its conclusions; only then does the public have an adequate opportunity to comment on and object to that proposed methodology. *See ConocoPhillips Co. v. EPA*, 612 F.3d 822, 833–38 (5th Cir. 2010).

EPA’s argument—that the clearly-demonstrate standard does not apply here—cannot be reconciled with these principles. By promulgating the Updated Guidance, EPA communicated a specific standard of review that it “intend[ed]” to apply in considering attainment designations. Updated Guidance at 5. True, EPA reserved the right to change its position. *See id.* at 6. But if it had wanted to use a different standard in making final

17-60088
c/w No. 21-60673

designations, the agency would have needed to give the relevant parties notice. EPA failed to do so. On the contrary, it appears to have *accepted* the standard—using the “clearly demonstrate” language in response to comments. *See* Responses to Significant Comments at 21, 40.

EPA cannot now defend its actions on different terms than those it gave at the time of the decision. *See Data Mkt. P’ship, LP v. U.S. Dept. of Lab.*, 45 F.4th 846, 856 (5th Cir. 2022) (“In reviewing an agency’s actions, we may consider only the reasoning ‘articulated by the agency itself’; we cannot consider *post hoc* rationalizations.”) (quoting *State Farm*, 463 U.S. at 50); *DHS v. Regents of the Univ. of Cal.*, 140 S. Ct. 1891, 1909 (2020) (“An agency must defend its actions based on the reasons it gave when it acted.”); *Michigan v. EPA*, 576 U.S. 743, 758 (2015) (explaining that a court “may uphold agency action only on the grounds that the agency invoked when it took the action”). The legality of EPA’s designations must rise or fall on the standard the agency used to make them—whether the record “clearly demonstrated” that Rusk and Panola Counties failed to attain the 2010 SO₂ NAAQS.⁵

⁵ EPA cites two cases from the D.C. Circuit for the proposition that it may disregard its guidance documents when taking final agency action, *Miss. Comm’n on Env’tl. Quality v. EPA*, 790 F.3d 139 (D.C. Cir. 2015); *Catawba Cnty. v. EPA*, 571 F.3d 20 (D.C. Cir. 2009), but both are easily distinguishable from the facts at issue here. In *Mississippi Commission on Environmental Quality*, the State argued that EPA had violated the APA by applying a five-factor test instead of the nine-factor test set forth in a guidance document. 790 F.3d at 162. In rejecting the State’s argument, the court determined that EPA had followed the guidance, and that the five-factor test was merely a “consolidation” of the nine-factor test. *See id.* (“But even if we assume that the 2008 Guidance *was* binding, the EPA did not deviate from it in the final designations.”). And in *Catawba County*, the County argued that EPA was required to allow notice and comment in issuing a guidance document that set forth a presumption of non-attainment in certain circumstances in connection with the NAAQS for particulate matter. 571 F.3d at 35–40. But there, EPA admitted that the standard set forth in its guidance document should apply to the County’s substantive challenge to the attainment designations—whereas here EPA contends that its own standard should not apply. Neither case supports EPA’s position in this case.

17-60088
c/w No. 21-60673

Under that standard, EPA's non-attainment decision cannot be reconciled with the record. According to the Petitioners, the Sierra Club's model overestimated the SO₂ concentrations in Rusk and Panola Counties because it failed to account for several site-specific conditions. EPA agreed that some aspects of the Sierra Club's model might be inaccurate, and so conducted "sensitivity modeling" on a different power plant to determine if the defects Luminant purported to identify were meaningful. The sensitivity test was inconclusive, and EPA admitted that it did not know the "exact impact" of the potential errors because it had not conducted a "direct analysis" with the Martin Lake power plant. Nonetheless, EPA concluded that the potential errors were not a sufficient basis to reject the Sierra Club's model.

When considered together with EPA's other relevant actions I would conclude that the agency's ultimate conclusion, that Rusk and Panola Counties clearly failed to attain the NAAQS, "runs counter to the evidence" that was before it. *State Farm*, 463 U.S. at 43. The only evidence that "affirmatively makes" EPA's case, *Sw. Elec. Power Co.*, 920 F.3d at 1019, is the Sierra Club's model, and that model was called into question by the Petitioners. The agency had the opportunity to scrutinize the alleged errors in the model, but declined to conduct a "direct analysis." At the very least, EPA's failure to conclusively determine the reliability of the Sierra Club's model lessens the probity of that evidence.

Perhaps if this were the only flaw in EPA's decision-making, I would be inclined to reject the Petitioners' argument. After all, an attainment designation warrants deference just like any other agency action. *BCCA Appeal Grp.*, 355 F.3d at 824. However, EPA committed several other significant errors. It declined to compare its monitoring data to the Sierra Club's model, even though the data appeared to be inconsistent with the model. And it refused to assess the reliability of Luminant's proposed alternative model, despite EPA's own admission that the model and its suggested refinements

17-60088
c/w No. 21-60673

might support a different conclusion. We must set aside agency action where there are “shortcomings in the agency’s explanations.” *Sw. Elec. Power Co.*, 920 F.3d at 1018. That is the case here. EPA discounted several errors in the Sierra Club’s model, and refrained from investigating the accuracy of multiple sources of potentially conflicting evidence. Even still, the agency concluded that the evidence before it “clearly demonstrated” that Rusk and Panola Counties failed to attain the 2010 SO₂ NAAQS. The record does not support that conclusion.⁶

In its analysis of this issue, the majority opinion does not even acknowledge the Petitioners’ argument that the relevant question is whether the record “clearly demonstrated” non-attainment. Instead, the majority opinion merely defers to EPA’s decision, reasoning that the agency’s action was minimally rational. *Ante* at 24–25. To be clear, I agree that EPA is best placed to make technical decisions about whether a particular air-dispersion model shows attainment with the SO₂ NAAQS. But its institutional competence does not mean that we should ignore errors.

* * *

In the name of agency deference, the majority opinion overlooks many flaws in EPA’s analysis. EPA failed to ask why the Sierra Club’s air-dispersion model conflicted with its own measured data. It failed to compare the admittedly flawed model it relied on with the competing model submitted by Luminant. And it failed to explain how the record before it “clearly demonstrated” that Rusk and Panola Counties were in non-attainment for the 2010

⁶ The most recent air-quality data shows that SO₂ levels in Rusk and Panola Counties is approximately 67 ppb—which means that the counties are in attainment for the 2010 NAAQS. This evidence only further calls into question EPA’s conclusion that the data “clearly demonstrated” that the counties were in non-attainment.

17-60088
c/w No. 21-60673

SO₂ NAAQS.

Instead of overlooking those flaws, I would hold that they make EPA's non-attainment decision arbitrary and capricious. In arriving at the opposite result, the majority opinion applies a form of heightened deference that is inconsistent with our precedent and the APA itself. I respectfully dissent.