

Case No. 24-1050 and Consolidated Cases

**IN THE UNITED STATES COURT OF APPEALS
FOR THE D.C. CIRCUIT**

COMMONWEALTH OF KENTUCKY, ET AL.,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Petitions for Review of Action by Environmental Protection Agency

RESPONDENTS' REPLY IN SUPPORT OF MOTION FOR VACATUR

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GLOSSARY

Act

Clean Air Act

EPA

United States Environmental Protection
Agency

NAAQS or standard

National Ambient Air Quality Standard

Rule

*Reconsideration of the National Ambient Air
Quality Standards for Particulate Matter*, 89
Fed. Reg. 16202 (Mar. 6, 2024)

INTRODUCTION

Contrary to the Clean Air Act’s directive and longstanding agency practice, EPA purported to “reconsider” a national ambient air quality standard (NAAQS or standard) for fine particulate matter without completing the mandatory “thorough review” of the underlying air quality criteria and related standards. This circumvention of the statute was unlawful. Because this legal error is fundamental and cannot be rectified on remand, the Court should vacate the Rule.

Even if, as Intervenor contend, the Act separately confers an additional authority to revise the standards without a thorough review, EPA exercised any such discretion unreasonably by refusing to consider the costs associated with an additional, off-cycle revision. The Court should therefore alternatively vacate the Rule because EPA failed to consider an important aspect of the problem.

No party disputes that EPA failed to complete a thorough review before revising the standards or that EPA failed to consider the costs of its revision. Intervenor attempt to salvage the Rule by raising, in some instances for the first time, incorrect or irrelevant arguments. None of these arguments has any bearing on the question before the Court: whether Congress authorized the Agency to revise the standard without undertaking the “thorough review” required by Section 109(d)(1) of the Act. The best reading of the statute—the reading EPA has applied for nearly fifty years—is that Section 109(d)(1) governs revisions, and Section

109(b) governs the content and procedure for promulgating standards. The second sentence of Section 109(d)(1) merely clarifies that EPA may complete thorough reviews before the five-year deadline. Because EPA did not complete a thorough review before revising the standard, the Rule is unlawful. EPA joins Petitioners in seeking vacatur and agrees with all parties that the Court should resolve this case expeditiously.

ARGUMENT

I. EPA exceeded its statutory authority by revising a standard without completing a thorough review.

EPA's Motion corrects its erroneous statutory interpretation presented in 2024. EPA Mot., ECF No. 2147050. The best reading of the statute is that Section 109(d)(1) establishes requirements that define the scope of EPA's revision authority by mandating a thorough review of the underlying air quality criteria and related standards before revising those standards. EPA Mot. 9-15. Because EPA did not comply with this requirement, it exceeded its statutory authority. *Id.*

A. EPA must complete a thorough review before revising standards.

Applying traditional interpretive principles, Section 109(d)(1) is best read as setting out substantive requirements, including the completion of a thorough review, before EPA may revise the NAAQS. 42 U.S.C. § 7409(d)(1). The first sentence provides:

[A]t five-year intervals thereafter [EPA] shall complete a **thorough** review of the criteria published under section [108] of this title and the national ambient air quality standards promulgated under [section 109] and shall make such revisions in such criteria and **standards** and promulgate such new standards as may be appropriate **in accordance with section [108] of this title and subsection (b) of this section.**

Id. (emphasis added). The second sentence provides that EPA “may review and revise criteria or promulgate new standards earlier or more frequently than required under this paragraph.” *Id.*

Read in context, the second sentence of Section 109(d)(1) incorporates requirements from the first. *See Sturgeon v. Frost*, 577 U.S. 424, 438 (2016) (“[T]he words of a statute must be read in their context and with a view to their place in the overall statutory scheme.”). The second sentence mirrors the first by referring to “review,” “criteria,” and “standards,” without repeating the first sentence’s precise phrasing. Congress had no need to repeat that phrasing because “under this paragraph” in the second sentence refers to and incorporates the entirety of Section 109(d)(1), which addresses EPA’s revision authority and obligations. Congress thus made clear that the second sentence modified only the timing obligation in the first sentence—authorizing EPA to complete a thorough review earlier than five years. Regardless of timing, EPA “shall complete a thorough review . . . *and* shall make such revisions as may be appropriate” to ensure the criteria and standards reflect recent scientific information and adequately protect public health. 42 U.S.C. § 7409(d)(1) (emphasis added).

While certain words in the first sentence (bolded above) do not appear in the second sentence, given the proximity of the two sentences, the second sentence is best understood as a shorthand reference to the first. EPA Mot. 13; *see also N.H. Lottery Comm’n v. Rosen*, 986 F.3d 38, 57 (1st Cir. 2021) (concluding that Congress used “shorthand to carry over a phrase from Clause One to Clause Two, which may suggest a broader pattern of borrowing by shorthand”). *Contra* NGO Resp. 22-23, ECF No. 2150736. Regarding the absence of “thorough,” it would have been odd for Congress to use “review” in the second sentence if it intended to obviate the thorough review specified one sentence earlier. The second sentence also omits language addressing “revisions in . . . standards,” that appears in the first sentence. But it is not reasonable to conclude that Congress intended to allow accelerated revision authority of criteria but not standards. And if Congress intended that result, EPA would have no discretionary revision authority to promulgate the challenged Rule under this subsection—a position at odds with Intervenor’s arguments. *See id.* at 22.¹ Indeed, Intervenor’s insist that the purpose of the second sentence of Section 109(d)(1) is to enable EPA to act more nimbly to ensure that standards are sufficiently supported by science. *Id.* at 27, 40.

¹ For similar reasons, it is insignificant that the second sentence of Section 109(d)(1) does not include “criteria published under section [108] of this title” or “standards promulgated under this section,” which are in the first sentence.

Decoupling two related sentences in the same paragraph ignores the statutory context and produces an absurd result. *Yellen v. Confederated Tribes of Chehalis Rsrv.*, 594 U.S. 338, 359 (2021) (“The most grammatical reading of a sentence in a vacuum does not always produce the best reading in context.”). The better reading is that, in context, the second sentence of Section 109(d)(1) incorporates the “thorough review” requirement of the first and simply clarifies that EPA may complete a thorough review of the criteria and revise the NAAQS earlier than at five-year intervals.

None of Intervenor’s examples demonstrates that EPA has improperly read the two sentences together. *Contra* NGO Resp. 23. Those cases interpret different provisions, relying on different statutory canons. In *Van Buren v. United States*, the Supreme Court analyzed the meaning and scope of “so.” 593 U.S. 374, 384 (2021). *Sierra Club v. EPA* examined the meaning of “such pollutant” to determine the correct referent. 21 F.4th 815, 820 (D.C. Cir. 2021). Section 111(b)(1)(B), 42 U.S.C. § 7411(b)(1)(B), likewise does not inform the meaning of Section 109(d)(1). That sub-paragraph imposed a different mandatory duty using a different formulation. EPA’s interpretation does not hinge on the concept that Congress must use specific language to create a cross reference. Rather, two sentences in the same paragraph of the statute should be read together as one “paragraph.”

Nor does EPA's interpretation collapse the meaning of "and" and "or."² NGO Resp. 24-25. The first sentence uses "and" because it establishes a nondiscretionary duty for EPA to complete a thorough review of both the criteria *and* the standards at five-year intervals before any revisions. But the phrase "as appropriate" in the first sentence makes clear that, while the review is mandatory, revisions *or* new standards are not. The second sentence similarly uses "or" to recognize that EPA may review earlier and decide no revisions are necessary. But EPA does not dispute that its reading makes "reviewing criteria a mandatory predicate to updating NAAQS." *Id.* 25. That is the best reading of the statute.

Intervenors assert that EPA's interpretation renders Section 108(c) superfluous. NGO Resp. 25-26. Section 108(c), which mostly predates Section 109(d)(1), establishes a mandatory duty to review "from time to time" and "as appropriate" revise criteria and information on control techniques. 42 U.S.C. § 7408(c). Section 108(c)'s review requirement now overlaps with the first sentence of Section 109(d)(1), which also imposes a specific mandatory duty to review every five years. *See RadLAX Gateway Hotel, LLC v. Amalgamated Bank*, 566 U.S. 639, 645 (2012) (The terms of a specific authorization govern over a general one). But Section 108(c) continues to require periodic updates as to

² Regardless, the "and/or" distinction is not immutable. *See Encino Motorcars, LLC v. Navarro*, 584 U.S. 79, 87 (2018).

control techniques, and Section 109(d)(1) does not render any part of Section 108(c) superfluous. In fact, Section 108(c) does not touch on the second sentence of Section 109(d)(1), which does not impose a mandatory duty on EPA to review and revise the air quality criteria as part of the NAAQS review process.

With Section 109(d)(1), Congress provided the mechanism for EPA to revise the NAAQs, and this provision displaces any inherent reconsideration authority. *Ivy Sports Med., LLC v. Burwell*, 767 F.3d 81, 86 (D.C. Cir. 2014). Intervenors read this Court's precedents too narrowly. NGO Resp. 19-20. The statutory authority of the later-added Section 109(d)(1) "covers the same concerns" and addresses the "same result" as the implicit authority Intervenors claim derives from Section 109(b). *Ivy Sports*, 767 F.3d at 87.

B. Section 109(b)(1) does not provide standalone reconsideration authority.

Intervenors now argue for the first time that the concluding sentence of Section 109(b) confers additional authority to revise the standards at will. NGO Resp. 11-20. But that portion of Section 109(b)(1) is best read as a procedural reference to the proposal-and-promulgation process enumerated in Section 109(a). *See* 42 U.S.C. § 7409(a), (b)(1); EPA Mot. 16-17. Section 109(b)(1) is not an open-ended authorization to revise the NAAQS. *Id.* Accordingly, the implied repeal doctrine does not apply here. *Contra* NGO Resp. 19.

EPA agrees that subsections (b)(1) and (d)(1) of Section 109, which serve different functions, must be read together and reconciled. *See id.* 4. The former establishes the notice-and-comment procedure for revising the standard (“in the same manner as promulgated”) and the latter establishes the substantive requirements that EPA must follow to undertake such revisions (a “thorough review”). EPA Mot. 15-18. Before Section 109(d) was enacted, EPA’s revision authority came not from Section 109(b)(1) but from the inherent or implicit statutory authority agencies possess to revise their own regulations. *See Am. Methyl Corp. v. EPA*, 749 F.2d 826, 835 (D.C. Cir. 1984).

Intervenors’ reading, that the second sentence of Section 109(d)(1) reaffirmed the preexisting authority to revise the standard under Section 109(b)(1), fails on multiple grounds. *Contra* NGO Resp. 14. First, Intervenors misunderstand the statutory history. Before Congress enacted Section 109(d) in 1977, EPA’s authority to revise standards was largely implied, and, aside from the procedure, the requirements for revision were unclear. The addition of Section 109(d)(1) reflects an iterative development during a time when the Act was undergoing significant change.

Second, it is Intervenors, by arguing that Section 109(b)(1) contains express NAAQS revision authority, who render Section 109(d)(1) superfluous. *Contra* NGO Resp. 12. The better reading, with which Intervenors agree elsewhere, is that

the last sentence in Section 109(b)(1) refers solely to notice-and comment rulemaking. *Id.* at 18 (“Context also supports reading ‘in the same manner as promulgated’ as speaking strictly to the notice-and-comment process.”). The Court should avoid an interpretation that renders the second sentence of Section 109(d)(1) superfluous of Section 109(b)(1). *See Agnew v. D.C.*, 920 F.3d 49, 57 (D.C. Cir. 2019).

Third, Section 109(d)(1), which establishes specific requirements for revising the standards, takes precedence over the general language in Section 109(b)(1). Intervenor contend that the general/specific canon applies only if a clear conflict exists. NGO Resp. 18-19. But “the canon has full application as well to statutes . . . in which a general authorization and a more limited, specific authorization exist side-by-side.” *RadLAX Gateway Hotel*, 566 U.S. at 645. Section 109(b) references EPA’s implicit authority to revise the standards, but Section 109(d)(1) prescribes actual requirements for doing so. Applying the canon “avoids not contradiction but the superfluity of a specific provision that is swallowed by the general one[.]” *Id.*

Intervenor misunderstand EPA’s alternative argument. NGO Resp. 17. EPA’s primary argument is that Section 109(b)(1) specifies the procedures for revising the standard and that Section 109(d)(1) specifies the substantive requirements. EPA Mot. 15-18. In the alternative, EPA argued that even if

Section 109(b)(1) provides substantive revision authority, that can still be harmonized with the thorough review requirement in Section 109(d)(1). *Id.* at 18.

C. Completing a thorough review comports with EPA’s longstanding practice.

When reviewing and revising NAAQS, EPA has always undertaken a thorough review before finalizing a standard, no matter the criteria pollutant at issue. EPA Mot. 15, Szabo Decl. ¶ 36. This longstanding practice, consistent over many decades, powerfully supports EPA’s interpretation here. *See Loper Bright Enters. v. Raimondo*, 603 U.S. 369, 39 (2024).

Intervenors’ attempts to combat this history fail. It is the Rule that departed *sub silentio* from EPA’s longstanding practice. *Contra* NGO Resp. at 10, 31. Intervenors cite EPA’s occasional practice of reopening *air quality* criteria during a thorough review to account for a limited set of studies, NGO Resp. 31, but none demonstrates that EPA has revised a NAAQS without a thorough review. The examples from EPA’s Response Brief at 79-80, ECF No. 2079971, do not undermine this point. One example is an instance in which EPA concluded a “thorough review” early—EPA does not dispute that it may complete its review early. *See* 62 Fed. Reg. 38856 (July 18, 1997). The other examples generally involve the reopening of air quality criteria as part of a larger thorough review (before finalizing standards based on review), identifying information to be

addressed in the *next* five-year review, or responding to a remand.³ Here, EPA finalized a standard, updated only a subset of the criteria, and *then* revised the standard; this was the first and only instance of such a practice. *See generally* Supplemental Declaration of Aaron Szabo (“Supp. Szabo Decl.”) (describing history of revisions).

Moreover, the fact that EPA has previously announced NAAQS reconsiderations but never finalized a revision via reconsideration supports EPA’s position here—the Rule is an anomaly. *See id.*; *see also* 75 Fed. Reg. 2938 (Jan. 19, 2010) (proposing reconsideration that President instructed EPA not to finalize); 87 Fed. Reg. 25485 (Apr. 29, 2022) (announcing reconsideration that was eventually rolled into ongoing five-year review).

³ *See* 48 Fed. Reg. 37519 (Aug. 18, 1983) (reviewed criteria in 1979, updated certain criteria in 1983, and *then* proposed and finalized a standard based on combined thorough review); 51 Fed. Reg. 11058 (Apr. 1, 1986) (determined that new information needed to be analyzed to complete thorough review and went back to the air quality criteria review stage *before* finalizing a NAAQS revision); 57 Fed. Reg. 35542, 35545 (Aug. 10, 1992) (proposed to retain the NAAQS without revision and explaining that EPA would consider some new studies in the next five-year thorough review instead of delay the 1992 review process further); 59 Fed. Reg. 58958, 58960-63 (Nov. 15, 1994) (supplemented air quality criteria *while* the air quality criteria review was ongoing, then proposing no revision on the basis of a thorough review); 68 Fed. Reg. 614 (Jan. 6, 2003) (responding to remand to address a specific health effect); 72 Fed. Reg. 71488, 71491 (Dec. 17, 2007) (describing the lead NAAQS review wherein EPA assessed the scientific evidence sporadically for several decades and ultimately completed thorough review in 2008).

At bottom, Intervenor argues that the Rule comports with EPA's typical practice without identifying a single analogous rulemaking. To the contrary, EPA's Motion describes EPA's consistent practice since the 1970s: revision of standards following a thorough review of the underlying air quality criteria and standards. *See* EPA Mot. 15; *see also* 58 Fed. Reg. 13008, 13013 n.1 (Mar. 9, 1993) (declining to consider studies not integrated into criteria and reaffirming longstanding position that "NAAQS decisions are to be based on scientific studies that have been assessed in air quality criteria"); *see also* Supp. Szabo Decl. (providing regulatory history).

D. Legislative history and purpose do not override the text of Section 109(d)(1).

Neither the Act's statutory purpose nor the legislative history override the text of Section 109(d)(1). While courts have relied upon statutory purpose to inform their interpretation when the "purpose is readily apparent from the . . . text," they "are not free to pave over bumpy statutory texts in the name of more expeditiously advancing a policy goal." *Sw. Airlines Co. v. Saxon*, 596 U.S. 450, 463 (2022) (citation omitted). Regardless, EPA's interpretation of its NAAQS revision authority is consistent with the purpose, which is to ensure consideration of the "latest scientific knowledge" on the public health or welfare effects of a pollutant as required for Section 108 criteria, 42 U.S.C. § 7408, before deciding whether and how to revise the related NAAQS under Section 109(b), *id.*

§ 7409(b)(1), “based on such criteria.” While Intervenor incorrectly this as a limit that discourages revision of the standards, Congress plainly established minimal requirements for revision of the criteria and standards that comport with the statute’s detailed and lengthy implementation scheme.

Intervenor identifies purportedly “extensive express guardrails” like notice and comment and judicial review. NGO Resp. 26. These are standard operating procedures for every rule promulgated under the Act. As for Intervenor’s claim that guardrails exist because standards must be based on criteria, *see id.*, their interpretation necessarily separates revision of standards from consideration of criteria. Intervenor also contends that the second sentence confers a separate, discretionary authority because Congress did not repeat certain words that appear in the first sentence. *Id.* 22-23. Under their reading, the second sentence of Section 109(d)(1) is untethered from the substantive requirements incorporated into the first, meaning a reconsideration under the second sentence is not bound by any provisions of Sections 108 or 109(b). *Id.*

Similarly, the legislative history related to the promulgation of Section 109(d)(1) does not take precedence over the text. *See Azar v. Allina Health Servs.*, 587 U.S. 566, 579 (2019). Here, the legislative history does not resolve any ambiguities in the statutory text. If anything, it supports EPA’s interpretation. For example, the 1977 House Conference Report uses “review” to discuss both the first

sentence and second sentence of 109(d)(1), thus using the term interchangeably.

Contra NGO Resp. 29. This indicates that Congress was referring to the same review in both sentences—a thorough review.

E. Whether the Rule promulgated a new standard or revised a standard, the result is the same.

Intervenors contend that EPA acted properly under the second sentence of Section 109(d)(1) because the Rule can be “understood” as a “new” standard. NGO Resp. 29. This novel argument, never raised in the rulemaking, is forfeited. *See* 42 U.S.C. § 7607(d)(7)(B). It is also inconsequential. EPA must complete a thorough review of the air quality criteria before either revising a standard or promulgating a new standard. And every revision of a prior standard necessarily involves the promulgation of a new standard. Regardless of how EPA decides to regulate, EPA must base the standard on a thorough review of the air quality criteria.

In any event, EPA repeatedly referred to the Rule as a reconsideration or revision of the NAAQS. *See, e.g.*, Rule, 89 Fed. Reg. 16202 (Mar. 6, 2024). The Rule need not literally replace regulatory text of an earlier standard to qualify as a revision. EPA regularly revises standards without replacing the existing regulatory text, given ongoing implementation efforts tied to the prior standard. *See, e.g.*, 73 Fed. Reg. 66964 (Nov. 12, 2008) (standard revisions that left in place less stringent standards); 89 Fed. Reg. 105692 (Dec. 27, 2024) (same).

II. Even if EPA could revise the standard without a thorough review, EPA abused its discretion by ignoring cost.

In the alternative, EPA erred in refusing to consider the costs associated with its discretionary mid-cycle review. Vacatur is thus proper because EPA failed to consider an important aspect of the problem.

EPA erred in refusing to consider a specific set of costs: those associated with a discretionary off-cycle NAAQS revision. EPA Mot. 18-19. Assuming that the second sentence of Section 109(d)(1) confers separate authority to revise a standard, that language gives EPA discretion in determining when and whether to do so. *Id.* at 19. Once promulgated, a standard generates significant reliance interests among States, local governments, and regulated parties under the Act's detailed implementation scheme. Szabo Decl. ¶¶ 26-33. The costs of a discretionary revision to something as consequential as a standard must be considered as part of reasoned decision-making.

Intervenors assert that EPA fails to show that costs were an important aspect of the problem. State-Intrv. Resp. 14, 19, ECF No. 21507474. But EPA concedes that it did not consider costs, and so it is not surprising that it lacks specific quantitative information. It is sufficient that EPA could have declined to undertake a discretionary revision if it had considered the costs associated with such an endeavor—indeed, in the past when costs were considered, EPA declined to finalize a proposed “reconsideration.” *See* EPA Mot. 7, 20. Nonetheless,

Intervenors do not dispute that implementation of the NAAQS is a complex process, which generates significant costs. EPA identified four aspects of the Rule that it should have, but did not, consider. *Id.* 20.

Intervenors erroneously argue that EPA is attempting to shoehorn costs—but not benefits—into the equation. NGO Resp. 34-35. But EPA championed the benefits it attributed to the Rule, and regardless, ignoring both costs and benefits would likewise be ignoring an important aspect of the problem. If EPA has discretion to undertake off-cycle NAAQS revisions, it must engage in “reasonable regulation” that “ordinarily requires paying attention to the advantages and the disadvantages of agency decisions.” *Michigan v. EPA*, 576 U.S. 743, 753 (2015).

Nor does EPA’s consideration of the costs infringe on cooperative federalism. *Contra* NGO Resp. 34. To be sure, States seeking to comply with the NAAQS must tailor strategies to each State’s unique situation. By acknowledging its duty to consider costs, however, EPA is not usurping the States’ role in NAAQS compliance. EPA is simply accounting for the stepwise framework for compliance and how a mid-cycle change might disrupt that program. Intervenors gesture vaguely at federalism concerns but fail to explain how accounting for any of those factors would impact the States’ ability and authority to comply with the NAAQS. Intervenors’ argument that costs are “legally irrelevant to the outcome of the NAAQS-setting process,” *id.*, ignores a critical distinction between the ultimate

standard (for which cost consideration is not permitted under current law) and the decision whether to exercise a hypothetical discretionary power to voluntarily undertake a mid-cycle revision.

III. The Motion is procedurally proper.

EPA has confessed error, thus changing its position in this litigation. EPA's Motion is a straightforward and appropriate vehicle to present EPA's changed position for the Court's consideration in deciding this case. Intervenor's procedural defect claim lacks merit. State-Intrv. Resp. 10. To begin, there was nothing improper about EPA's motions for abeyance following the Presidential transition. EPA needed time for new leadership to review the Rule and determine appropriate next steps. *See, e.g.*, ECF Nos. 2101162, 2113396, 2121802, 2130019. While EPA mentioned a rulemaking in support of its abeyance motions, it also stated that it was continuing "to consider appropriate next steps in this litigation in coordination with the Department of Justice." ECF No. 2130019 at 2. EPA's Motion does not mention the rulemaking because it is irrelevant. EPA now agrees with Petitioners that the Rule exceeded the agency's statutory authority and should be vacated. These issues were already before the Court, which is tasked with determining the best reading of the statute under *Loper Bright*.

Nothing prevents this Court from granting EPA's Motion now. State-Intrv. Resp. 5. Intervenor's objection to EPA's Motion is curious as EPA now seeks

what Intervenors desire: a final determination on the merits. Further, Intervenors' reference to Circuit Rule 27(f)(1) is inapt. *Id.* That rule concerns dispositive motions filed early in litigation, before merits briefing, to narrow or resolve the litigation. *See, e.g.*, Circuit Rule 27(f)(3) (deferring merits briefing until resolution of dispositive motions). The rule does not apply where merits briefing and oral argument have concluded.

IV. The Court should vacate because EPA exceeded its statutory authority and failed to consider a relevant aspect of the problem.

EPA's failure to complete a thorough review before revising the NAAQS compels vacatur. EPA Mot. 21-23 (citing *Allied-Signal, Inc. v. U.S. Nuclear Regul. Comm'n*, 988 F.2d 146, 150-51 (D.C. Cir. 1993)). In the alternative, EPA's failure to consider cost compels vacatur because EPA entirely failed to consider an important aspect of the problem. *Id.*

A. EPA's errors were serious.

1. EPA committed substantive errors, not mere procedural defects.

Two serious deficiencies—neither of which could be repaired on remand—afflict the Rule. EPA Mot. 21-22. Intervenors erroneously try to portray one of these errors, EPA's failure to complete the required "thorough review," as a simple procedural misstep. State-Intvr. Resp. 12. But this attempt falls flat.

First, EPA lacks the statutory authority to take the challenged action, which is a serious and substantive error that compels vacatur. The Act recognizes this distinction by separately addressing review of procedural errors and actions “in excess of statutory jurisdiction, authority, or limitations, or short of statutory right.” 42 U.S.C. § 7607(d)(9)(C)-(D). Thus, the Act recognizes that the lack of statutory authority is *not* a mere procedural error.

Here, because EPA did not conduct the required “thorough review,” it lacked authority to revise the standard. *Infra* Arg. I.A. Intervenor’s Motion explaining that EPA “skipped” a step in the NAAQS reconsideration process to characterize this error as a minor flaw. State-Intrv. Resp. 11-12. But “skipping” a step—one that gives EPA the necessary authority to take the challenged action—can hardly be considered a simple procedural flaw. *See Air All. Hous. v. EPA*, 906 F.3d 1049, 1066 (D.C. Cir. 2018) (vacating rule where EPA exceeded its authority); *see also Davis Cnty. Solid Waste Mgmt. v. EPA*, 101 F.3d 1395, 1411 (D.C. Cir. 1996), *opinion amended on reh’g*, 108 F.3d 1454 (D.C. Cir. 1997) (same). And the step that EPA confesses it skipped—and that no party disputes—is a substantive requirement of Section 109(d)(1).

The “procedural errors” referred to in Section 307(d)(8) stem from “procedural determinations” made by EPA “under this subsection,” such as establishing a rulemaking docket and providing for notice and comment. 42

U.S.C. § 7607(d)(2)-(8); *Coal. for Renewable Nat. Gas v. EPA*, 108 F.4th 846, 857 (D.C. Cir. 2024). They do not refer to agency action taken in excess of statutory authority, which the Act addresses separately. 42 U.S.C. § 7607(d)(9)(C).

Compared to a classic procedural error like minor defects in notice and comment, failing to undertake a required analysis to determine if NAAQS “are requisite to protect the public health,” *id.* § 7409(b)(1), is a substantive failure. *Cf. Ohio v. EPA*, 603 U.S. 279, 299 (2024) (holding that EPA’s failure to reasonably explain gaps in decision was likely arbitrary and capricious, not procedural error).

Second, even if failing to undertake a thorough review *could* be considered a procedural error, it would be “so serious and related to matters of such central relevance” as to justify vacatur. 42 U.S.C. § 7607(d)(8); *see also NRDC v. Wheeler*, 955 F.3d 68, 85 (D.C. Cir. 2020) (vacating for “fundamental flaw” of failure to provide notice and comment). The thorough review conducted under Section 109(d)(1) is the basis on which EPA determines whether to revise or retain an existing NAAQS. Therefore, the absence of a thorough review “significantly change[s]” the substance of the Rule. 42 U.S.C § 7607(d)(8). So even if the Court finds EPA committed only procedural error, vacatur is still appropriate because the lack of a thorough review is “so serious” and “of such central relevance” to *any* NAAQS revision and could significantly change the substance of the rule. *Id.*

2. EPA's errors cannot be corrected on remand.

Vacatur is the appropriate remedy where an agency acts in excess of its statutory authority or otherwise commits legal error. That is especially true where the agency's errors cannot be corrected on remand. And here, the Act specifically provides for vacatur of an action that exceeded EPA's authority. 42 U.S.C. § 7607(d)(9)(C).

A lack of statutory authority cannot be cured on remand. *Waterkeepers Chesapeake v. FERC*, 56 F.4th 45, 49-50 (D.C. Cir. 2022). State Intervenor sidestep the crux of EPA's argument by asserting that EPA did not adequately *explain* its authority to act. State-Intrv. Resp. 17. While such an error may be curable on remand, that is not the error EPA confesses here. EPA cannot lawfully revise a standard without first conducting a thorough review of the air quality criteria and the existing standards. EPA cannot explain away that deficiency. And because the thorough review itself would shape the resulting standard, there is no reason to believe a rulemaking proceeding on remand would produce the same rule under review.

As for EPA's mistaken belief that it could not consider the costs of completing a mid-cycle, discretionary NAAQS revision, remand cannot correct that error. *Contra* State-Intrv. Resp. 19. EPA failed to even consider any questions relating to cost based on a fundamental misunderstanding of its

authority. EPA cannot now assess such costs without evaluating and adding substantial new information to the record. EPA would be required to “‘deal with the problem afresh’ by taking *new* agency action,” *DHS v. Regents of Univ. of Cal.*, 591 U.S. 1, 21 (2020), and cannot predetermine that new action’s outcome. In addition, courts “have not hesitated to vacate a rule when the agency has not responded to empirical data or to an argument inconsistent with its conclusion.” *Comcast Corp. v. FCC*, 579 F.3d 1, 8 (D.C. Cir. 2009). The Agency’s failure to address an important aspect of the problem is a “major shortcoming[]” that warrants vacatur. *See Humane Soc’y v. Zinke*, 865 F.3d 585, 614-15 (D.C. Cir. 2017).

B. Vacatur would not be unduly disruptive.

Vacatur would essentially preserve the status quo by putting back into effect the twelve micrograms per cubic meter standard reaffirmed in the 2020 rule. This standard has been in place since 2012 and is familiar to the regulated community. States that have been implementing it for over a decade—a factor courts consider when assessing disruptiveness. *See also Nat’l Parks Conservation Ass’n v. Jewell*, 62 F. Supp. 3d 7, 21 (D.D.C. 2014) (vacating a rule that would reinstate a longstanding regulation because doing so would have “limited disruptive consequences”). This is not a case where “[t]he egg has been scrambled.” *Sugar Cane Growers Co-op. of Fla. v. Veneman*, 289 F.3d 89, 97 (D.C. Cir. 2002).

Although some implementation of the Rule has occurred thus far, those steps may be reversed, and the most disruptive requirements are not yet effective. EPA Mot. 22-23.

Remand without vacatur would compel EPA to take significant steps to implement the unlawful Rule in the coming months—a result more disruptive than vacatur. *Id.* Intervenor’s claims of disruption are unfounded. *See* State-Intrv. Resp. 19-21. States may still pursue their own efforts to control air pollution consistent with state and federal law. *See* 42 U.S.C. § 7416.

CONCLUSION

The Court should grant EPA’s motion to vacate the Rule.

Dated: December 23, 2025.

Respectfully submitted,

/s/ Sarah Izfar

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CERTIFICATE OF COMPLIANCE

1. This document complies with this Court's December 23, 2025 order, ECF No. 2151905, because, excluding the parts of the document exempted by Federal Rule of Appellate Procedure 32(f) this document contains 5,197 words.

2. This document complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type-style requirements of Federal Rule of Appellate Procedure 32(a)(6) because this document has been prepared in a proportionally spaced typeface using Microsoft Word 2016 in 14-point Times New Roman font.

/s/ Sarah Izfar
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CERTIFICATE OF SERVICE

I hereby certify that on December 23, 2025, I filed the foregoing using the Court's CM/ECF system, which will electronically serve all counsel of record registered to use the CM/ECF system.

/s/ Sarah Izfar

ORAL ARGUMENT HELD ON DECEMBER 16, 2024

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

COMMONWEALTH OF
KENTUCKY, ET AL.,

Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION
AGENCY, ET AL.,

Respondents.

Case No. 24-1050 and
consolidated cases

DECLARATION OF AARON SZABO

I, Aaron Szabo, under penalty of perjury, affirm and declare that the following statements are true and correct to the best of my knowledge and belief, and are based on my own personal knowledge or on information contained in the record of the United States Environmental Protection Agency (EPA) or supplied to me by the EPA employees under my supervision.

1. I am the Assistant Administrator for the United States Environmental Protection Agency Office of Air and Radiation (OAR), which is located at 1200 Pennsylvania Avenue, NW, Washington D.C. 20460.
2. Prior to joining the EPA, I served as a federal civil servant, first at the Nuclear Regulatory Commission, where I worked on nuclear power plant

issues and regulations, and then at the White House Office of Information and Regulatory Affairs, where I worked on major climate and air regulations. I continued my career civil service as the Senior Counsel at the Council on Environmental Quality, where my role expanded to include the National Environmental Policy Act and federal sustainability issues. I hold degrees in economics, government, and politics from the University of Maryland, College Park, and a law degree from George Washington University Law School.

3. OAR is the EPA office with primary responsibility for administration of the Clean Air Act. As the Assistant Administrator for OAR, I serve as the principal advisor to the Administrator on matters pertaining to air and radiation programs and am responsible for managing these programs, including: policy development and evaluation; development of emissions standards; policy guidance and overview; and technical support and evaluation of regional air and radiation program activities.
4. Through my role as Assistant Administrator for OAR, I am familiar with the development and implementation of the EPA programs, policies, and regulations under the Clean Air Act. As part of my duties, I oversee the development and implementation of regulations, policy, and guidance under sections 108 and 109 of the Clean Air Act, 42 U.S.C. §§ 7408–09, including

air quality criteria and primary and secondary National Ambient Air Quality Standards (NAAQS).

5. The purpose of this declaration is to provide the Court with additional context, history, and factual assertions in support of the EPA's contemporaneously filed reply in support of its confession of error and motion for vacatur. Specifically, this declaration surveys regulatory history for the criteria pollutants other than PM that the EPA has regulated under the NAAQS program since the 1970s.

Ozone Primary NAAQS

6. The EPA first established NAAQS for photochemical oxidants in 1971 (36 FR 8186, April 30, 1971), based on an air quality criteria document (AQCD) prepared by a predecessor agency component in 1970 (35 FR 4768, March 19, 1970). The primary standard was set at 0.08 parts per million (ppm), as a 1-hour average of total photochemical oxidants, not to be exceeded more than one hour per year.
7. The EPA initiated the first periodic review of the NAAQS for photochemical oxidants in 1977, and proposed revisions based on a 1978 AQCD the following year (43 FR 26962, June 22, 1978). The Agency stated that “[s]ection 109(d) directs the Administrator to complete a review of all existing standards and criteria ... and to revise them in whatever manner that

review reveals is necessary” and explained that it had “review[ed] and updat[ed] the 1970 criteria document ... in accordance with the provisions of Section 109(d)(1)” to develop the proposal (*id.* at 26963).

8. In 1979, the EPA promulgated revised ozone NAAQS after considering comments on the proposed rule (44 FR 8202, February 8, 1979). The Agency again explained that Section 109(d) requires “a review of all existing standards and criteria” and that “[t]his promulgation is the result of such a review” (*id.* at 8203). The final rule changed the indicator from photochemical oxidants to O₃, revised the level of the primary standards from 0.08 to 0.12 ppm and revised the form from a deterministic (i.e., not to be exceeded more than one hour per year) to a statistical form.
9. The EPA initiated the next periodic reviews of the criteria and standards for O₃ and other photochemical oxidants in 1982 and 1983, respectively (47 FR 11561, March 17, 1982; 48 FR 38009, August 22, 1983). The Agency explained that it was again reviewing the criteria document for ozone “[p]ursuant to sections 108(c) and 109(d)” to address issues “associated with review of the ozone standards” (48 FR at 38009). The EPA subsequently published the 1986 AQCD and the 1989 Staff Paper. A 1992 supplement to the 1986 AQCD described additional important scientific studies on potential health effects.

10. In August 1992, the EPA proposed to retain the existing primary standard based on the health effects information contained in the 1986 AQCD and its 1992 Supplement (57 FR 35542, August 10, 1992). The Agency explained that consistent with prior practice, it had initiated a review of the criteria document “[i]n response to requirements of section 109(d) of the Act” and based its proposal on the results of that review (*id.* at 35544-45). The Agency noted that it had not taken recent studies into account in the proposal because “2 to 3 years will be necessary to incorporate the new studies into a revised criteria document” and “under section 109(d), the EPA believes it would be inappropriate and, indeed, does not have unlimited discretion to delay completion of the current review further for these purposes” (*id.* at 35546). Rather, the Agency committed “to proceed as rapidly as possible with the next periodic review of the air quality criteria and standards” under “the process established in sections 108 and 109 of the Act” (*id.* at 35554). The Agency believed that despite its length, this process “is both necessary and appropriate given applicable statutory requirements” (*id.*).
11. In March 1993, the EPA finalized its decision to conclude the second periodic review by retaining the standard, without revision, and committing to initiate the next review cycle expeditiously (58 FR 13008, March 9, 1993). The Agency specifically rejected comments asserting that the EPA

should have considered the recent studies and revised the standards without incorporating them into the air quality criteria, stating that “under section 109(d) ... the EPA must periodically conduct ‘a thorough review’ of the air quality criteria” before revising standards (*id.* at 13013). In doing so, the Agency reaffirmed its view since the 1970s “that NAAQS decisions are to be based on scientific studies that have been assessed in air quality criteria” (*id.* at 13013 n.1).

12. Consistent with the 1993 final decision, the EPA initiated the third periodic review and subsequently published the AQCD and Staff Paper for that next review. In December 1996, the EPA proposed revisions to the primary standard (61 FR 65716, December 13, 1996). The EPA completed this review in 1997 by setting the primary standard at a level of 0.08 ppm, based on the annual fourth-highest daily maximum 8-hour average concentration, averaged over three years (62 FR 38856, July 18, 1997). In this rulemaking, the Agency again took the position that its authority to revise the NAAQS arises from 109(d) and did not cite 109(b) in rejecting arguments that it could not revise the NAAQS (*e.g., id.* at 38884).

13. The EPA initiated the fourth periodic review of the air quality criteria and standards for O₃ and other photochemical oxidants in September 2000 (65 FR 57810, September 26, 2000). In 2007, the EPA proposed to revise the

level of the primary standard within a range of 0.075 to 0.070 ppm (72 FR 37818, July 11, 2007). The 2006 AQCD and 2007 Staff Paper and related technical support documents supported this proposed decision. The EPA completed the review in March 2008 by revising the level of the primary standard from 0.08 ppm to 0.075 ppm while retaining the other elements of the prior standard (73 FR 16436, March 27, 2008). The Agency again explained that since the 1970s, “the EPA has taken the view that NAAQS decisions are to be based on scientific studies and related information that have been assessed as a part of the pertinent air quality criteria, and has consistently followed this approach,” and that recent studies would be considered “for purposes of decision making in the next periodic review of the O₃ NAAQS” (*id.* at 16438-39).

14. In January 2010, the EPA took the unusual step of issuing a notice of proposed rulemaking to “reconsider” the 2008 final decision (75 FR 2938, January 19, 2010). In that notice, the EPA proposed to revise the level of the primary standard from 0.075 ppm to a level within the range of 0.060 to 0.070 ppm through a limited reconsideration of the prior review that included additional studies.
15. In 2011, however, President Obama and the Administrator of the Office of Information and Regulatory Affairs (OIRA) issued public letters instructing

the EPA not to finalize the proposed reconsideration, citing cost and the ongoing thorough review obligation.¹ The Agency therefore did not finalize the proposed reconsideration action and instead went on to finalize the fourth periodic review in 2015, as discussed below.

16. In late 2014, based on the Integrated Science Assessment (ISA), Risk and Exposure Assessments (REAs) for health and welfare, and policy assessment (PA) developed for the fourth review, the EPA proposed to revise the 2008 primary and secondary standards by reducing the level of both standards to within the range of 0.070 to 0.065 ppm (79 FR 75234, December 17, 2014). The EPA promulgated a final rule in October 2015, establishing the now-current standards of 0.075 ppm to a level of 0.070 ppm, while retaining all the other elements of the standard (80 FR 65292, October 26, 2015). Notwithstanding the 2010 proposed rule, the Agency applied its longstanding position that new studies must be considered either by reopening the air quality criteria and delaying a final decision or by finalizing a decision and considering new studies “in the next periodic review” (*id.* at 65299).

¹ See Letter from Cass R. Sunstein, Administrator, OIRA, to Lisa P. Jackson, Administrator, EPA (Sept. 2, 2011), available at: https://obamawhitehouse.archives.gov/sites/default/files/ozone_national_ambient_air_quality_standards_letter.pdf; Statement by the President on the Ozone National Ambient Air Quality Standards (Sept. 2, 2011) <https://obamawhitehouse.archives.gov/the-press-office/2011/09/02/statement-president-ozone-national-ambient-air-quality-standards>.

17. In June 2018, the EPA announced its initiation of the fifth periodic review of the air quality criteria for photochemical oxidants and the O₃ NAAQS (83 FR 29785, June 26, 2018). This O₃ NAAQS review progressed on an accelerated schedule in an effort to satisfy the five-year review deadline. On August 14, 2020, based on the evidence in the 2020 ISA, the PA, with associated air quality, risk and exposure analyses, and Clean Air Scientific Advisory Committee (CASAC) advice, the EPA proposed to retain the primary O₃ standards, without revision (85 FR 49830, August 14, 2020). In December 2020, the EPA issued its final decision to retain the existing standards without revision (85 FR 87256, December 31, 2020).
18. Following publication of the 2020 decision, and subsequent petitions seeking review and reconsideration, the Agency announced a partial “reconsideration” of the 2020 decision (similar to the announcement as to PM NAAQS) on October 29, 2021. But ultimately, the EPA decided to address the concerns animating its announcement into a new review of the O₃ NAAQS and the underlying air quality criteria.²

² The Agency’s August 21, 2023, announcement is available at <https://www.epa.gov/newsreleases/epa-initiates-new-review-ozone-national-ambient-air-quality-standards-reflect-latest>.

Nitrogen Dioxide Primary NAAQS

19. In 1971, the EPA added oxides of nitrogen to the list of criteria pollutants under section 108(a)(1) of the CAA and issued the initial air quality criteria (36 FR 1515, January 30, 1971). Based on these air quality criteria, the EPA promulgated NAAQS for oxides of nitrogen using NO₂ as the indicator (36 FR 8186, April 30, 1971). The primary standard was set at 100 micrograms per cubic meter (µg/m₃) (equal to 0.053 parts per million [ppm]), as an annual average.
20. The EPA retained the primary NO₂ standards, without revision, in the subsequent reviews completed in 1985 and 1996 (50 FR 25532, June 19, 1985; 61 FR 52852, October 8, 1996). In 1996, the EPA concluded that “retaining the existing annual standard is consistent with the scientific data assessed in the [1993] Criteria Document ... and the [1995] Staff Paper” (*id.* at 52854).
21. In December 2005, the EPA initiated the next periodic review of the health-based air quality criteria and NAAQS for oxides of nitrogen (70 FR 73236, December 9, 2005). In July 2009, the EPA proposed to supplement the existing primary annual NO₂ standard by establishing a new short-term standard after undergoing “extensive and deliberate” review (74 FR 34404, 34408, July 15, 2009). In February 2010, the EPA finalized a new short-

term NO₂ standard with a level of 100 parts per billion (ppb), based on the 3-year average of the 98th percentile of the yearly distribution of 1-hour daily maximum concentrations, and retained the existing primary annual NO₂ standard of 53 ppb as an average annual average (75 FR 6474, February 9, 2010). As the notice stated, consistent with the Agency's longstanding position on CAA section 109(d), the EPA's "final decisions" were "based on a thorough review... of scientific information on known and potential human health effects" (*id.* at 6477).

22. In February 2012, the EPA initiated the next periodic review of the health-based air quality criteria and NAAQS for oxides of nitrogen (77 FR 7149, February 10, 2012). In July 2017, the Administrator proposed to retain the existing primary NO₂ standards without revision, stating that the "proposed decision has been informed by a careful consideration of the full body of scientific evidence and information available" (82 FR 34792, 34793, July 2017). In April 2018, the EPA issued its final decision, again informed by the "careful consideration of the full body" of evidence, to retain the existing 1-hour and annual NO₂ primary standards, without revision (83 FR 17226, 17227, April 18, 2018).
23. The EPA initiated its next and current review of the health-based air quality criteria and NAAQS for oxides of nitrogen in December 2022 (87 FR 75625,

December 9, 2022). This review is being conducted on a schedule governed by a consent decree, and the next step will be to release drafts of the ISA and PA for the CASAC's review and public comment.

Lead Primary NAAQS

24. In 1976, the EPA listed lead (Pb) under section 108 as a criteria pollutant, issued air quality criteria in 1976, and promulgated NAAQS for Pb under section 109 in 1978 (41 FR 14921, April 8, 1976; 43 FR 46246, October 5, 1978). Both the primary and secondary standards were set at a level of $1.5\mu\text{g}/\text{m}_3$ measured as Pb in total suspended particles (Pb-TSP), not to be exceeded by the maximum arithmetic mean concentration averaged over a calendar quarter.
25. In the mid-1980s, the EPA initiated the first review of the Pb standards. The scientific assessment for that review is described in the 1986 Air Quality Criteria for Lead, with an associated Addendum and Supplement (73 FR 66966, November 12, 2008). The Agency designed and performed human exposure and health risk analyses, the results of which were presented in the 1990 Staff Paper. After consideration of the documents developed during the review and the significantly changed circumstances since Pb was listed

in 1976, the Agency finalized a decision not to revise the Pb NAAQS at that time (*id.*).

26. In 2004, the EPA initiated the second review of the Pb air quality criteria and standards (69 FR 64926, November 9, 2004). The Agency's plans for preparation of the AQCD and conduct of the NAAQS review were released in 2005 and early 2006 (73 FR 66966, November 12, 2008). The EPA published its proposed decision in Spring 2008 (73 FR 29184, May 20, 2008). In its final decision, after considering the full body of evidence evaluated in the thorough review, the EPA substantially revised the primary standard from a level of 1.5 $\mu\text{g}/\text{m}_3$ to a level of 0.15 $\mu\text{g}/\text{m}_3$ (73 FR 66964, November 12, 2008).
27. In 2010, the EPA initiated the third review of the air quality criteria and NAAQS for Pb (75 FR 8934, February 26, 2010). The final ISA was released in June 2013 (78 FR 38318, June 26, 2013). Based on all of the available information and advice, the EPA proposed to retain the existing 2008 standards, without revision "based on a thorough review, in the ISA, of the latest scientific information ... on human health effects associated with Pb" (80 FR 278, 286, January 5, 2015). After consideration of the thorough review as well as public comment on the proposal, the EPA concluded the

review in 2016 with a final decision to retain the existing standards, without revision (81 FR 71906, 71912, October 18, 2016).

28. In the 2016 final action, as in previous rulemakings, the EPA explained that “‘new’ studies may sometimes be of such significance that it is appropriate to delay a decision on revision of a NAAQS and to supplement the pertinent air quality criteria so the studies can be taken into account” and sometimes—like in the 2016 Pb action—they are not, in which case “the EPA will consider the ‘new’ studies for purposes of decision making in the next periodic review of the NAAQS for Pb” (*id.* at 71912). In this way, the Agency again applied its longstanding position that the EPA must address new studies that arise late into a thorough review process in accordance with the statute, either extending the thorough review *before* finalizing the standard, or reviewing the data during the course of the next thorough review.

Carbon Monoxide Primary NAAQS

29. The EPA initially established NAAQS for CO on April 30, 1971. The standards were set at 9 parts per million (ppm), as an 8-hour average, and 35 ppm, as a 1-hour average, neither to be exceeded more than once per year (36 FR 8186, April 30, 1971).

30. In 1985, the EPA concluded its first periodic review of the criteria and standards for CO (50 FR 37484, September 13, 1985). In that review, the EPA updated the scientific criteria upon which the initial CO standards were based through the publication of the 1979 AQCD for Carbon Monoxide and prepared a Staff Paper, which, along with the 1979 AQCD, served as the basis for the development of the proposed rule published on August 18, 1980 (45 FR 55066, August 18, 1980). Uncertainties regarding the scientific basis for the final decision resulted in the EPA's announcing a second public comment period (47 FR 26407, June 18, 1982). Following substantial reexamination of the scientific data, the EPA prepared an Addendum to the 1979 AQCD and an updated Staff Paper that were subject to the second comment period. In 1985, after considering all of the above information, the EPA announced its decision not to revise the existing primary standards (50 FR 37484, September 13, 1985).

31. On August 1, 1994, the EPA concluded its second periodic review of "health effects of CO assembled over a 5-year period and contained in the criteria document" by deciding that revisions to the CO NAAQS were not warranted at that time (59 FR 38906, 38912, August 1, 1994). This decision reflected the EPA's review of relevant scientific information assembled since the last review, as contained in the 1991 AQCD and the 1992 Staff Paper.

32. In 1997, the EPA initiated the third periodic review, releasing the final 2000 AQCD in August 2000. After this release, Congress requested that the National Research Council (NRC) review the impact of meteorology and topography on ambient CO concentrations in high altitude and extreme cold regions of the U.S. Following completion of the NRC report, the EPA issued a final decision to retain the standards (76 FR 54296, August 31, 2011).
33. In 2007, the EPA initiated the fourth periodic review by issuing a call for information from the public (72 FR 52369, September 13, 2007). The final ISA was released in January 2010 (76 FR 54296, August 31, 2011). The EPA developed and finalized a REA and PA in 2010. In accordance with the court order governing the timeline for the review, the EPA issued a proposed rule on February 11, 2011 and a final rule on August 31, 2011 (76 FR 54294, August 31, 2011). The Agency again reiterated that new studies which come about late into a thorough review process may either result in delaying the decision on a NAAQS and supplementing the criteria before finalizing, or considering the studies as part of the next new thorough review cycle (*id.* at 54296). The Agency again stated that it was “basing the final decisions in this review on the studies and related information included in the CO air quality criteria” and that the EPA would “consider the ‘new’ studies for

purposes of decision-making in the next periodic review of the CO NAAQS” (*id.*).

Sulfur Dioxide Primary NAAQS

34. The initial air quality criteria for SO_x were issued in 1967 and reevaluated in 1969 (34 FR 1988, February 11, 1969; U.S. DHEW, 1967, 1969). Based on the 1969 criteria, the EPA, in initially promulgating NAAQS for SO_x in 1971, established the indicator as SO₂. The EPA set two primary standards in 1971: 0.14 parts per million (ppm) averaged over a 24-hour period, not to be exceeded more than once per year, and 0.03 ppm, as an annual arithmetic mean (36 FR 8186, April 30, 1971).
35. The EPA initiated the first review of the air quality criteria and primary standards for SO_x in the early 1980s and concluded in it in 1996 with a final decision to retain the standards without revision (61 FR 25566, May 22, 1996). This long review included several rounds of revisions to the air quality criteria and multiple public comment periods.
36. In April and July 1986, the EPA prepared addenda to the AQCD based on health studies that became available after the 1982 AQCD (51 FR 11058, April 1, 1986). In December 1986, the EPA issued an addendum to the 1982 Staff Paper. In 1988, the EPA proposed to retain the existing standards and

solicited comment on the alternative of retaining the existing standards while additionally establishing a 1-hour standard of 0.4 ppm to protect against short-term exposures (53 FR 14926, April 26, 1988).

37. In 1994, the EPA prepared a second addendum to the 1982 AQCD in response to publication of additional relevant controlled human exposure studies on health effects of short-term SO₂ concentrations, and issued the 1994 Supplement to the 1982 Staff Paper. In November 1994, the EPA re-proposed to retain the existing standards and also solicited comment on retaining the existing standards in combination with one of three policy options to further reduce health risks (59 FR 58958, November 15, 1994). In May 1996, the EPA issued its final decision to retain the existing standards “based on the scientific data assessed in the criteria document and staff paper and their addenda” (61 FR 25566, 25570, May 22, 1996).
38. In May 2006, the EPA initiated the second periodic review of the air quality criteria and NAAQS for SO_x (71 FR 28023, May 15, 2006). After proposing changes and reviewing public comments, the EPA promulgated a new 1-hour standard set at a level of 75 parts per billion (ppb), based on the 3- year average of the annual 99th percentile of 1-hour daily maximum SO₂ concentrations, and revoked the existing 24-hour and annual primary standards (75 FR 35520, June 22, 2010). The Agency stated that the “final

decisions” were “based on a thorough review in the ISA of scientific information on known and potential human health effects associated with exposure to SO₂ in the air” (*id.* at 35523).

39. In May 2013, the EPA announced its plans for the third, and most recent, review of the air quality criteria and NAAQS for SO_x (78 FR 27387, May 10, 2013). Based on the available scientific evidence on health effects associated with exposure to SO_x, and updated analyses and advice, the EPA proposed to retain the primary SO₂ NAAQS (83 FR 26752, June 8, 2018). After finding “the health effects evidence newly available in this review, as critically assessed in the ISA in conjunction with the full body of evidence, reaffirms the conclusions from the last review,” the EPA finalized its decision to retain the NAAQS, without revision (84 FR 9866, 9867, March 18, 2019).

Secondary NAAQS (All Criteria Pollutants)

40. Consistent with CAA sections 108 and 109, the EPA has also developed air quality criteria and secondary NAAQS for PM (including total suspended particles (TSP) since 1971, PM₁₀ since 1987, and PM_{2.5} since 1997), as well as ozone, NO₂, lead, carbon monoxide, and SO₂. 42 U.S.C. §§ 7408, 7409. In some cases, for criteria pollutants contributing to the same environmental

effect, the Agency has reviewed the air quality criteria and secondary NAAQS for certain criteria pollutants together (*see, e.g.*, 77 FR 20218, April 3, 2012; 89 FR 105692, December 27, 2024 (reviews addressing roles of sulfur oxides and nitrogen oxides in aquatic acidification)).

41. The EPA's longstanding practice with respect to reviewing air quality criteria pertaining to human health and the associated primary NAAQS also applies to review of air quality criteria pertaining to environmental impacts and the associated secondary NAAQS. That is, the Agency completes a "thorough review" of both the air quality criteria and the secondary NAAQS, and proposes and finalizes revisions to the secondary NAAQS only after reviewing and revising the underlying air quality criteria as appropriate (*see, e.g.*, 80 FR 65292, October 26, 2015 ("based on her consideration of the full body of welfare effects evidence and related analyses ... the Administrator has concluded that the current secondary standard for O₃ does not provide the requisite protection of public welfare from known or anticipated adverse effects"; "this decision is based on a thorough review, in the ISA, of the latest scientific information on O₃ - induced environmental effects"))).

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 23, 2025, in Washington, D.C.



Aaron Szabo

Assistant Administrator, Office of Air and Radiation

U.S. Environmental Protection Agency