

**United States Court of Appeals**  
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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Argued December 4, 2019

Decided April 21, 2020

No. 17-1257

LOUISIANA ENVIRONMENTAL ACTION NETWORK, ET AL.,  
PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY AND ANDREW  
WHEELER, ADMINISTRATOR, U.S. ENVIRONMENTAL  
PROTECTION AGENCY,  
RESPONDENTS

AMERICAN FOREST & PAPER ASSOCIATION,  
INTERVENOR

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Consolidated with 18-1245

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On Petitions for Review of Final Action by the  
United States Environmental Protection Agency

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*James S. Pew* argued the cause for petitioners. With him on the briefs was *Emma C. Cheuse*.

*Andrew J. Doyle*, Attorney, U.S. Department of Justice, argued the cause for respondents. With him on the brief were *Jeffrey Bossert Clark*, Assistant Attorney General, *Jonathan D. Brightbill*, Principal Deputy Assistant Attorney General, and

*Scott Jordan*, Attorney, U.S. Environmental Protection Agency.

*Shannon S. Broome, Charles H. Knauss, Alexandra K. Hamilton, Jeffrey A. Knight, and David M. Friedland* were on the brief for *amici curiae* Air Permitting Forum, et al. in support of respondents.

*Russell S. Frye* argued the cause and filed the brief for intervenor.

Before: HENDERSON and PILLARD, *Circuit Judges*, and SENTELLE, *Senior Circuit Judge*.

Opinion for the Court filed by *Circuit Judge* PILLARD.

Dissenting opinion filed by *Senior Circuit Judge* SENTELLE.

PILLARD, *Circuit Judge*: One of the ways that the Clean Air Act (the Act), 42 U.S.C. §§ 7401 *et seq.*, controls hazardous air pollutants like dioxins, mercury, polycyclic organic matter, and dozens of others is by requiring EPA to set “emission standards” applicable to each category of “major sources” of such pollutants, *id.* § 7412(d)(1). It is well established under our precedent that the Act requires each source category’s emission standard to address every recognized hazardous pollutant that the source category is known to emit. *See Nat’l Lime Ass’n v. EPA*, 233 F.3d 625, 634 (D.C. Cir. 2000). No party seriously disputes that interpretation, nor could it. The problem here is that in promulgating the emission standard for pulp mill combustion sources in 2001 EPA addressed some but not all the hazardous air pollutants they are known to emit. *See* Final Rule: National Emission Standards for Hazardous Air Pollutants for Chemical

Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicheical Pulp Mills, 66 Fed. Reg. 3,180 (Jan. 12, 2001) (2001 Rule) (codified at 40 C.F.R. pt. 63, subpt. MM).

In the past when EPA left out requisite limits from a source category's emission standard, it has acted during its congressionally mandated periodic review of that standard under section 112(d)(6) to revise it to include the necessary limits. The Act requires EPA every eight years to "review, and revise as necessary" each of the "emission standards" it has promulgated under section 112—and to do so "taking into account developments in practices, processes, and control technologies." 42 U.S.C. § 7412(d)(6). In 2017, EPA (belatedly) conducted its first section 112(d)(6) review and revision of the 2001 pulp mill combustion source emission standard, but this time it decided to review only the standard's limits on emissions of the toxics the standard already controlled, leaving unlimited several other hazardous toxics that the sources are known to emit but that were left out of the 2001 Rule. *See* Final Rule: National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicheical Pulp Mills, 82 Fed. Reg. 47,238 (Oct. 11, 2017) (2017 Rule).

The parties here dispute whether it was "necessary" under section 112(d)(6) for EPA to calculate the missing emission limits and "revise" the incomplete "emission standard" promulgated in 2001 to include them. Environmental petitioners challenge as both contrary to law and arbitrary the 2017 Rule's failure to correct the standard's acknowledged under-inclusiveness during the section 112(d)(6) review. EPA agrees that the Act requires it to set controls in accordance with the method described in section 112(d)(2)-(3) for every air toxic a source category emits. As counsel for EPA put it at oral

argument, “[t]his case is not about whether EPA has an obligation to set emission standards for each and every [air toxic] from a source category: It does. *National Lime* in 2000 established that.” Oral Arg. Rec. at 17:53-18:08. But EPA contends that section 112(d)(6) is unambiguous in confining the requisite periodic review to whatever pollutants an existing standard already controls, and “creates no obligation for EPA” to consider any “pollutants not previously addressed.” EPA Br. 2. EPA thinks Congress left the Agency to decide when to finish the job: In EPA’s view, it *may* but is not *required to* address during section 112(d)(6) review any listed but still uncontrolled hazardous air pollutants the source category emits. And the Agency says it decided not to do so here because of time constraints that, it claims, left it with inadequate information to calibrate the limits. Intervenor American Forest and Paper Association takes a more restrictive view of EPA’s authority, insisting that, to protect industry’s entitlement to repose, any challenge to the standard’s under-inclusiveness of listed air toxics should have been brought within 60 days after the 2001 Rule. *See* 42 U.S.C. § 7607(b)(1). Petitioners respond that they have timely raised a meritorious challenge to EPA’s 2017 Rule. Petitioners also challenge EPA’s denial of their petition for reconsideration, contending that EPA’s central rationale—that it lacked time to promulgate the missing limits, and had no legal obligation to do so during its section 112(d)(6) review—appeared for the first time in the Final Rule, depriving the public of an opportunity to comment.

We hold that, because the Act necessitates section 112-compliant emission standards for each source category, and section 112(d)(6) requires EPA at least every eight years to review and revise emission standards “as necessary,” EPA’s section 112(d)(6) review of a source category’s emission standard must address all listed air toxics the source category

emits. The 2017 Rule failed to do so. We accordingly grant the petition and remand the 2017 Rule without vacatur, and direct EPA to set limits on the listed air toxics that pulp mill combustion sources are known to emit but that EPA has yet to control. In light of the remand, we dismiss as moot the denial of the petition for reconsideration.

## **I. BACKGROUND**

### **A. The Clean Air Act Amendments**

When Congress enacted the Clean Air Amendments of 1970, it directed EPA to identify and regulate hazardous air pollutants. Pub. L. No. 91-604, § 4(a), 84 Stat. 1676, 1678-80 (codified as amended at 42 U.S.C. §§ 7407-09). Two decades on, “[d]issatisfied with EPA’s progress in identifying hazardous air pollutants, Congress amended the Act in 1990 to name nearly 200 such pollutants” and “charged EPA with identifying sources of those pollutants and setting emission standards for them.” *Nat’l Ass’n for Surface Finishing v. EPA*, 795 F.3d 1, 4 (D.C. Cir. 2015); see *Nat’l Lime Ass’n*, 233 F.3d at 634 (“Congress added the list of pollutants to be regulated, regulation deadlines, and minimum stringency requirements to the Clean Air Act precisely because it believed EPA had failed to regulate enough HAPs [Hazardous Air Pollutants] under previous air toxics provisions.”). The initial list of air toxics that Congress compiled to make up for EPA’s slow start appears at section 112(b)(1). 42 U.S.C. § 7412(b)(1).

Section 112 of the Act, added as part of the 1990 Amendments, mandates EPA’s regulation of those listed air toxics. See Clean Air Act Amendments, Pub. L. No. 101-549, § 301, 104 Stat. 2399, 2531-74 (1990) (1990 Amendments). Section 112(b) calls on EPA to build on the initial list Congress created to maintain an up-to-date list of air toxics. To that end, the Act requires EPA periodically to review and revise the list

by rule. *Id.* § 7412(b)(2). In addition, “any person” may petition EPA to add a hazardous air pollutant to the list or delete one from it, and Congress directed that EPA grant or deny such petition within 18 months. *Id.* § 7412(b)(3)(A). The listed air toxics include known carcinogens as well as substances causing serious non-cancer health effects to various bodily organs and systems—including nerves, heart, lungs, liver, skin, and reproductive systems—and to fetal development. Many of these toxics affect people’s health through multiple pathways (water, soil, food, air), are persistent (meaning that, once emitted, they linger in the environment), and bio-accumulative (such that small amounts inhaled or otherwise absorbed by bodily tissues build up over time, thereby intensifying associated health risks).

To control emissions of the listed air toxics, EPA must “promulgate regulations establishing emission standards for each category or subcategory of major sources.” *Id.* § 7412(d)(1). The Clean Air Act currently lists 190 hazardous pollutants. More than a hundred pulp mill chemical recovery combustion sources operating in the United States collectively emit more than 23 million pounds of those air toxics annually. *See Proposed Rule: National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills*, 81 Fed. Reg. 97,046, 97,082 (Dec. 30, 2016) (2016 Proposed Rule). Those chemical recovery combustion sources are an identified subset of the sources of hazardous emissions at pulp mills. Pulp mills work to mush, grind, or dissolve wood and other materials into pulp, typically used to make paper. The pulping process creates a chemical liquor byproduct that contains some of the original pulping chemicals. Pulp mills can recover these chemicals for reuse through a variety of chemical processes as well as generate energy through incinerating other residual organic matter. These “chemical

recovery combustion sources” are the only sources of emissions regulated by the 2001 and 2017 Rules. *Id.* at 97,051-52.

Each source category’s “emission standard” must specify the source’s maximum allowable emission “of hazardous air pollutants listed for regulation.” 42 U.S.C. § 7412(d)(1). In other words, each “emission standard” includes limits on emissions of air toxics from a particular kind of air polluter. An emission standard must contain limits for each listed air toxic the relevant category of source emits. *Id.* § 7412(d)(1)-(3); *see also, e.g., Sierra Club v. EPA*, 479 F.3d 875, 878, 883 (D.C. Cir. 2007) (reiterating EPA’s clear statutory obligation to set limits on all air toxics a source emits, and invalidating “no control” emission floors for brick and ceramics kilns); *Mossville Envtl. Action Now v. EPA*, 370 F.3d 1232, 1236, 1242 (D.C. Cir. 2004) (reading section 112(d)(1) clearly to require limits “for every HAP emitted from each category or subcategory of major sources” and invalidating standard governing polyvinyl chloride (PVC) manufacturers that controlled only vinyl chloride); *Nat’l Lime Ass’n*, 233 F.3d at 634 (recognizing EPA’s “clear statutory obligation to set emission standards for each listed HAP” and invalidating standard governing brick and ceramics kilns that placed “no control” floors on their emissions of hydrogen chloride, mercury, and hydrocarbons). The existing standard governing pulp mill combustion sources limits a handful of the listed air toxics those sources emit but sets no limit on many others.

Section 112(d)(2)-(3) prescribes the method by which EPA, in promulgating an emission standard, must calibrate source-specific limits on emission of each air toxic. Specifically, for existing major sources, EPA must “require the maximum degree of reduction in emissions” by the particular source category that the Agency “determines is achievable.”

42 U.S.C. § 7412(d)(2). To that end, the Act directs EPA to calculate the average level of emissions of each air toxic achieved by the best-performing 12 percent of facilities in a given source category—those that emit the toxic at the lowest levels. *Id.* § 7412(d)(3)(A). That baseline emissions limit is referred to as the “maximum achievable control technology” floor or “MACT floor.” *Sierra Club v. EPA*, 895 F.3d 1, 7-8 (D.C. Cir. 2018). EPA must then determine, considering cost, health, and environmental effects, whether a more stringent limit is “achievable.” *Id.* § 7412(d)(2). If so, EPA must promulgate a “beyond-the-floor” limit at that more stringent level. *Surface Finishing*, 795 F.3d at 5.

When Congress amended the Act in 1990 to jumpstart implementation, it set a stringent timeline for EPA’s hazardous air pollutant regulation. Congress required EPA to promulgate standards for every area source and major source category and subcategory in the United States “as expeditiously as practicable.” 42 U.S.C. § 7412(e)(1). It set an overall deadline for EPA to regulate all identified air toxics emitted by any covered source within 10 years of the Act’s effective date—*i.e.*, by November 15, 2000. *Id.* § 7412(e)(1)(E). To propel EPA to act, Congress set interim milestones. It directed EPA to finalize standards for at least forty categories of sources within two years of the effective date, *id.* § 7412(e)(1)(A), each of which had to address all the listed pollutants the source category emits, *id.* § 7412(b)(1). Congress further specified that EPA must finalize standards for 25 percent of source categories and subcategories within four years, *id.* § 7412(e)(1)(C), and at least another 25 percent within seven years of the Act’s effective date, *id.* § 7412(e)(1)(D).

The provision at issue here, section 112(d)(6), requires EPA, on an ongoing periodic basis, to revisit and update emission standards that it has already set for each source. No

less than every eight years, EPA must “review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section.” *Id.* § 7412(d)(6). That review ensures that, over time, EPA maintains source standards compliant with the law and on pace with emerging developments that create opportunities to do even better.

In addition to its section 112(d)(6) review, EPA under section 112(f)(2) must conduct a one-time review within 8 years of promulgating an emission standard to, among other things, evaluate the residual risk to the public from each source category’s emissions and promulgate more stringent limits as necessary “to provide an ample margin of safety to protect public health.” *Id.* § 7412(f)(2)(A). Petitioners do not here challenge EPA’s section 112(f)(2) risk assessment.

#### **B. History of the 2017 Rule**

After notice and comment, EPA in 2001 promulgated national emission standards to control hazardous air pollutants emitted by “new and existing sources used in chemical recovery processes at kraft, soda, sulfite, and stand-alone semichemical pulp mills.” 2001 Rule, 66 Fed. Reg. at 3,180. We refer to this regulated source, which includes recovery furnaces, smelt dissolving tanks, and lime kilns at pulp mills, as “pulp mill combustion sources.” *See id.* at 3,181-82. The 2001 Rule failed to include any limit on some of the hazardous air pollutants that pulp mill combustion sources emitted, but nobody challenged it at the time.

In 2009, Sierra Club and other environmental nonprofit organizations petitioned EPA to conduct a rulemaking to control the air toxics the 2001 Rule overlooked. As relevant here, they urged the Agency to set limits for dozens of additional hazardous air pollutants that pulp mill combustion

sources were known to emit. More than a decade later, EPA has not responded to that petition, nor have petitioners sued on grounds of unreasonable delay to enjoin the Agency to do so.

In February 2011, EPA issued an Information Collection Request asking pulp and paper manufacturers for information needed to conduct its section 112(d)(6) review, as well as its section 112(f)(2) “risk review.” Its request sought updated inventory data for all pulp and paper emission sources, and available information on chemical recovery combustion equipment and control devices currently in use. *See* 2016 Proposed Rule, 81 Fed. Reg. at 97,052. Despite a 100 percent response rate from manufacturers providing the requested information, *id.*, EPA did not take needed action to revise the emission standard for pulp mill combustion sources to limit any of the listed but as-yet uncontrolled air toxics.

Sierra Club and California Communities Against Toxics sued EPA in 2015 in the Northern District of California under the citizen-suit provision of the Clean Air Act, 42 U.S.C. § 7604, challenging the Agency’s failure to conduct the statutorily required follow-up reviews for pulp mill combustion sources. *See Sierra Club v. McCarthy*, No. 15 Civ. 1165 (HSG), 2016 WL 1055120 (N.D. Cal. Mar. 15, 2016). EPA agreed that it had failed to fulfill its mandatory rulemaking duties under sections 112(d)(6) and (f)(2) of the Act, and asked only for sufficient time within which to do so. *Id.* at \*1. After carefully examining EPA’s representations about what it had done so far against what it had yet to do, the court in early 2016 ordered EPA to issue final determinations on both reviews by October 1, 2017. *Id.* at \*7. EPA did not object to that timeline, nor did it at any time seek to extend it.

Mindful of its court-ordered timeline, EPA in December 2016 solicited notice and comment on a proposed revision of

the emission standard for pulp mill combustion sources. *See* 2016 Proposed Rule, 81 Fed. Reg. at 97,046. EPA announced it was conducting the requisite residual-risk review under section 112(f)(2) and a “technology review” under section 112(d)(6). *Id.* at 97,048. It proposed some changes to the 2001 Rule, but none to address the lack of limits on many of the hazardous air pollutants the pulp mill combustion sources emit. Petitioner Sierra Club commented on the 2016 Proposed Rule and emphasized that section 112(d)(6) requires EPA to set limits on previously uncontrolled hazardous air pollutants. Intervenor American Forest and Paper Association also commented, insisting for its part that “EPA has no obligation to expand the scope of the existing standards and does not in fact have statutory authority to do so.” Joint Appendix (J.A.) 374.

EPA, in its September 2017 response to comments, acknowledged that “standards for certain combinations of pollutants and processes in the . . . [pulp mill combustion] source category have not been promulgated.” J.A. 378. Only then did EPA announce that, although it has the authority “to develop standards under 112(d)(2) and (3) for previously unregulated pollutants at the same time the Agency completes the section 112(d)(6) review, nothing in section 112(d)(6) expressly requires the EPA to do so as part of that review.” *Id.*

In October 2017, EPA promulgated its Final Rule without setting any limits for those hazardous air pollutants it acknowledges it must regulate but that it had omitted from the 2001 standard for pulp mill combustion sources. *See* 2017 Rule, 82 Fed. Reg. at 47,335. Apart from its disclaimer of any obligation to do so under section 112(d)(6), EPA’s sole explanation for not including the requisite limits was that “[t]he compressed schedule for this rulemaking, due to the court-ordered deadline, did not make it reasonable to appropriately

evaluate new standards for unregulated pollutants and processes.” *Id.*

### **C. Procedural History**

On December 11, 2017, Petitioners Louisiana Environmental Network, PT Air Watchers, and Sierra Club sought review of the 2017 Rule in this court and also petitioned EPA for reconsideration. EPA denied the petition for reconsideration on July 9, 2018. *See* National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills, 83 Fed. Reg. 32,213 (July 12, 2018). Petitioners sought our review of that denial on September 10, 2018, and we consolidated the petition challenging the denial of reconsideration with their earlier petition for review of the 2017 Rule.

## **II. DISCUSSION**

### **A. Jurisdiction**

We have jurisdiction under section 307(b)(1) of the Act to review EPA’s Final Rule. 42 U.S.C. § 7607(b)(1). EPA does not contest Petitioners’ standing, but Intervenor argues that Petitioners lack an injury in fact and, in any event, have not shown any redressable injury. Petitioners submitted six member declarations in support of their organizational standing, two from each of the three Petitioner organizations. All of the members allege that they experience various symptoms that they attribute to emissions from neighboring pulp mills, and each alleges having curtailed favored activities accordingly. “[E]nvironmental plaintiffs adequately allege injury in fact when they aver that they used the affected area and are persons ‘for whom the aesthetic and recreational values of the area will be lessened’ by the challenged activity.”

*Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 183 (2000) (quoting *Sierra Club v. Morton*, 405 U.S. 727, 735 (1972)). The alleged injuries readily meet that standard.

**B. EPA's Duty Periodically to Revise Major Sources' Emission Standards as Necessary Requires Adding Missing Limits on Air Toxics the Source Emits**

Section 112(d)(6) is the statutory mechanism for reviewing and updating emission standards applicable to listed sources. It requires that, no less often than every eight years, EPA "shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section." 42 U.S.C. § 7412(d)(6). The question here is whether, when EPA undertakes those updates, it must add limits, calculated consistent with section 112(d)(2)-(3), for any air toxics the source emits that the existing standard does not address. In past section 112(d)(6) reviews of other sources' emission standards, EPA has updated the standards to include limits for hazardous air pollutants that the sources emit but the Agency had not previously limited. *See, e.g.*, Final Rule: National Emissions Standards for Hazardous Air Pollutants for Mineral Wool Production and Wool Fiberglass Manufacturing, 80 Fed. Reg. 45,280, 45,311 (July 29, 2015); Final Rule: National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, 77 Fed. Reg. 58,220, 58,238 (Sept. 19, 2012). At oral argument both Petitioners and EPA represented that EPA had previously always updated its standards to set limits on unregulated air toxics in the course of its section 112(d)(6) review. Oral Arg. Rec. at 5:02-5:38 (Petitioners); *id.* at 18:29-19:20 (EPA). EPA later identified

three section 112(d)(6) reviews during which it did not set limits on previously unaddressed air toxics. *See* EPA 28(j) Letter (Dec. 10, 2019) (citing 80 Fed. Reg. 75,178 (Dec. 1, 2015); 77 Fed. Reg. 55,698 (Sept. 11, 2012); 76 Fed. Reg. 70,834 (Nov. 15, 2011)); *see also* Pet’rs 28(j) Response (Dec. 17, 2019) (not disputing EPA’s characterization). EPA argued here that its past practice of adding missing limits during section 112(d)(6) review was optional, and that the Act grants it discretion whether or not to bring underinclusive standards into compliance with section 112(d)(2)-(3) when conducting its periodic section 112(d)(6) review.

There is no dispute that the Act requires EPA to have in place emission standards to control all the listed pollutants that a source category emits, and requires the Agency to revise existing standards that are underinclusive to add section 112(d)(2)-(3) controls for listed but unaddressed pollutants. The only question is whether EPA lawfully may complete a section 112(d)(6) review and “revise” an existing, underinclusive emission standard “as necessary” *without* supplying the missing controls. Put differently, the issue is whether section 112(d)(6)’s periodic, mandatory review and revision “as necessary” is textually confined to those air toxics already limited under the source’s existing emission standard, or whether that provision compels consideration of the adequacy of the emission standard to control all the air toxics the source category emits.

We read the statutory text to require EPA during its section 112(d)(6) review to establish any missing limits. Because we conclude that the text of the statute unambiguously supports Petitioners’ reading, we resolve the case without resort to any deference to EPA under *Chevron, USA, Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984).

Two key features of the statutory language make clear that EPA's duty periodically to review and revise existing standards under section 112(d) encompasses a mandate to add missing limits:

First, the “standards” to which section 112(d)(6) refers—the “emission standards promulgated under this subsection”—are statutorily defined as comprehensive controls for each source category that must include limits on each hazardous air pollutant the category emits. *See* 42 U.S.C. § 7412(d)(1)-(3), (6). The statutory definitions EPA points to do not support its contention that an emission standard is a limit on an individual pollutant, as opposed to a regulation governing the set of pollutants emitted by a source category. The Act's “generally applicable definition,” EPA Br. 5, describes an emission standard as governing “emissions” of “pollutants” plural, specifically, “a requirement . . . which limits the quantity, rate, or concentration of emissions of air pollutants,” *id.* § 7602(k). The regulatory definition it says is “[m]ore particular to the Act's hazardous air pollutant program,” EPA Br. 5, merely refers back to a “national standard . . . promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act,” 40 C.F.R. § 63.2. And, in calling for “emission standards for each category or subcategory of major sources of hazardous air pollutants listed for regulation,” section 112(d) defines air pollution “emission standards” as source-specific, not toxic-specific. 42 U.S.C. § 7412(d)(1). Accordingly, as used in section 112(d), an emission standard includes as many limits as needed to control all the emitted air toxics of a particular source category.

EPA also urges that what counts as an emission standard “promulgated” under section 112 is frozen once EPA completes its initial promulgation, meaning that section 112(d)(6)'s reference to an “emission standard[] promulgated”

under section 112 would reach only the subset of air toxics a source's existing standard addressed. But "emission standards" under section 112(d)(6) are not constrained by past, potentially flawed and underinclusive agency action, as EPA now suggests. Congress' requirement that EPA must periodically review and revise as necessary its "emission standards" is a mandate to address the adequacy of each emission standard on the books against the statutory demand of section 112(d)(2) for an "emission standard" for each source category—one with the requisite degree of control of all of the air toxics the source emits. The obligatory periodic review and revision of "emission standards" thus must ensure that each source category's standard imposes appropriate limits—not just on whatever subset of toxics the existing standard addressed, but on all the toxics the source category emits.

The second textual reason to read section 112(d)(6) to require EPA to add missing controls is the subsection's mandate to "revise" emission standards "as necessary." 42 U.S.C. § 7412(d)(6). Again, the core demand of section 112 is that EPA promulgate emission standards for every source category addressing all listed hazardous air pollutants. And Congress established deadlines to make clear that time is of the essence. We conclude that when EPA reviews an existing standard that fails to address many of the listed air toxics the source category emits, adding limits for those overlooked toxics is a "necessary" revision under section 112(d)(6).

EPA asks us to read the statutory phrase—"as necessary (taking into account developments in practices, processes, and control technologies)," *id.*—to require only changes related to the practical or technological advances mentioned in the parenthetical. But the language is to the contrary. The operative standard is "revise as necessary," with the parenthetical pointing to a non-exhaustive list of

considerations. Unlike other of EPA's statutory mandates, section 112(d)(6) does not state only that EPA "shall take into account" listed factors, *id.* § 11002(a)(4) (EPA's authority to revise lists of toxic chemicals), or that listed others shall not be taken into account, *id.* § 7473(c)(1) (concentrations of pollutants EPA must ignore). Instead, EPA must revise its emission standards "as necessary," while "taking into account" certain factors.

To complete a defined task while taking certain factors into account means to be aware of or consider the factors, not to treat them as the exclusive determinants. For example, nobody would understand a school principal's instructions to a teacher revising lesson plans "as necessary (taking into account available textbooks and online enrichment programs)" as confining the teacher's planning to those criteria, to the exclusion of the school district's or state's comprehensive grade-level curricular requirements. No reasonable reader of the principal's instruction would think that it would render optional (let alone prohibited) the teacher's revisions to adhere to baseline curricular mandates. Dictionaries confirm that commonsense understanding. The Oxford English Dictionary, for example, defines "to take into account" as "to take into consideration as an existing element, to notice." Oxford English Dictionary (2d ed. 1989). And Merriam-Webster's describes to "take into account" as "to make allowance for." *Take*, Merriam-Webster Dictionary Online, <http://www.merriam-webster.com/dictionary/take> (last visited April 10, 2020). In its periodic reviews of emission standards, EPA must consider practical and technological advances, but section 112(d)(6)'s parenthetical specification does not undercut EPA's obligation to "revise" an emission standard "as necessary" to bring it into compliance with the Act's own definition in section 112(d)(1)-(3) of a minimally adequate "emission standard."

EPA claims that its reading of section 112(d)(6) review as confined to consideration of “developments in practices, processes, and control technologies” finds support from our 2015 decision in *Surface Finishing*, but EPA correctly concedes that “*Surface Finishing* and the precedent it follows are not directly on point.” EPA Br. 26. In *Surface Finishing*, we examined whether EPA’s section 112(d)(6) review of a standard that already imposed MACT limits must ignore those limits and proceed as if EPA were promulgating new ones from scratch. *See id.* at 7-9. We held that section 112(d)(6) permitted EPA to respond to intervening developments by adjusting existing limits on toxics already subject to emission standards without recalculating MACT floors for those toxics. *See id.* at 8. Here, we address not a *recalculation* of existing limits within a source standard, but whether the Act necessitates revising source standards to include *for the first time* MACT limits for many of the hazardous air pollutants the source category emits. The section 112(d)(6) requirement that EPA, when it undertakes its eight-year review, revise emission standards “as necessary” means that EPA must conform them to the basic requisites of “emission standards” under section 112, including by setting controls on previously unaddressed hazardous air pollutants.

EPA and Intervenor’s readings not only contravene the text of section 112(d)(6), but effectively would deprive of practical effect the Act’s specified processes for adding to or subtracting from the statutory list of hazardous air pollutants, and its direction to EPA to act within 18 months on a petition to modify the list. 42 U.S.C. § 7412(b)(3)(A). The point of prompt action to update the air toxics list is to ensure that emission standards timely reflect new information about hazards. Under EPA and Intervenor’s readings of section 112(d)(6), however, after the requisite swift action to list a new pollutant or to remove a substance that need not be controlled,

the Agency could choose to ignore it indefinitely, even as EPA updates other features of standards governing the very source categories known to emit it. Such a result would contravene Congress' intent.

The statutory text alone suffices to resolve this petition, but we note that Petitioners' reading of section 112(d)(6) is also the only reading that comports with the Act's overall structure and purpose. A principal focus of the 1990 Clean Air Act Amendments was to hasten EPA's regulation of hazardous air pollutants. As already discussed, Congress in the 1990 Amendments specified a series of ambitious deadlines for EPA to promulgate emission standards within a decade—and with a series of intermediate deadlines—for all sources of hazardous air pollutants. It also set a two-year deadline for EPA to promulgate emission standards from scratch for any newly listed source category. *Id.* § 7412(c)(5). And it required compliance with emission standards “as expeditiously as practicable, but in no event later than three years after the effective date of such standard.” *Id.* § 7412(i)(3)(A). Section 112(d)(6) review is the sole periodic, ongoing review of emission standards the Act requires. Out of line with Congress's temporal vigilance to compel EPA's prompt promulgation of standards for every source category to limit each air toxic it emits, EPA's reading of the Act to allow but not require the Agency to address previously uncontrolled air toxics during a scheduled section 112(d)(6) review implausibly leaves no statutory prompt for the completion of statutorily deficient controls.

Intervenor, for its part, denies even EPA's claimed authority to opt, in its discretion, to use the occasion of a section 112(d)(6) review to add unlawfully omitted controls on listed air toxics to a source category's existing emission standard. That reading makes no sense. Intervenor does not

deny that EPA has authority separately to promulgate new rules to set the missing emission limits for regulated sources. *See id.* § 7412(d)(1). Even assuming EPA’s reading of section 112(d)(6) were correct, Intervenor points to nothing in the Act that would prevent EPA from opting to promulgate the missing limits together with a section 112(d)(6) review. Indeed, the practical efficiency of fewer rulemakings addressing the same source category’s emission standard further supports Petitioners’ reading. Congress cannot have intended to require that the Agency, the regulated community, and interested members of the public engage piecemeal with rulemakings amending the same emission standard under section 112(d)(2)-(3) and, separately, under section 112(d)(6). This is further confirmation that the Act is best read to require any underinclusive emission standards be “revised” as “necessary” to comply with section 112(d)(2)-(3) during the eight-yearly review set by section 112(d)(6).

EPA’s indefinite deferral of its obligation to address pulp mill combustion sources’ unregulated hazardous air pollutants is not excused by what it now describes as “the compressed schedule for this rulemaking” set by the Northern District of California in *Sierra Club v. McCarthy*. 2017 Rule, 82 Fed. Reg. at 47,335. As far back as 2011, EPA had already received full responses from all the pulp and paper manufacturers it queried through its Information Collection Request. EPA represented to the district court in 2015 that it had gathered the needed information and completed “a detailed modeling file of the emissions that occur in each source category” for pulp mill combustion sources. *Sierra Club*, 2016 WL 1055120, at \*5. The district court nonetheless gave it until October 1, 2017—an additional year and a half after that court’s March 2016 decision—to complete its section 112(d)(6) review. The adequacy of that timeframe is underscored by EPA’s failure to object or, even later, seek additional time to complete the

revision. And it appears generous indeed against the backdrop of Congress' determination in the 1990 Clean Air Act Amendments that two years was enough time for EPA to collect information and promulgate from scratch standards for 40 categories and subcategories of sources to control almost 200 air toxics they emitted. *See* 42 U.S.C. § 7412(e)(1)(A). Now—almost twenty years after the final statutory deadline for setting emission standards for all hazardous air pollutants emitted by all source categories, and ten years since Sierra Club petitioned for a rulemaking to limit these pollutants from these pulp mill combustion sources—EPA has yet to undertake the requisite steps to comply with its statutory obligation to set the missing limits. The text, structure, and purpose of section 112(d)(6) make clear that Congress placed it as a check against what could otherwise be perpetual deferral of EPA's acknowledged statutory obligation to control all hazardous air pollutants. This case confirms the practical wisdom of that choice.

In order to retain the protection of the existing rule, we remand without vacatur. “Although the MACT floor standards in the [Final] Rule are inadequate to the extent emission standards are not set for all listed HAPs, the rules provide protection from the HAPs for which EPA did establish such standards.” *NRDC v. EPA*, 489 F.3d 1364, 1375 (D.C. Cir. 2007).

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For the above reasons, we grant the petition for review of the 2017 Rule and remand without vacatur for EPA to set limits on the remaining hazardous air pollutants emitted by pulp mill combustion sources. We dismiss the petition for review of EPA's denial of reconsideration as moot.

*So ordered.*

SENTELLE, *Senior Circuit Judge*, dissenting: Although Petitioners set forth four issues in their brief, as the majority recognizes, this case is controlled by one issue—that is, what is the scope and meaning of the review-and-revise requirement of section 112(d)(6) of the Clean Air Act. *See* Maj. Op. 14. More specifically, the question is whether the mandate to review and revise the emission standards refers to the whole scheme of regulatory controls required by the Act, thereby requiring EPA to promulgate missing emission standards for listed pollutants during its 112(d)(6) review and revision, or only to those standards that EPA has already promulgated at the time of the review, regardless of whether some listed pollutants are left unregulated. EPA opted for the latter. The majority treats EPA’s consideration of the statute as not reasonable, stating “[b]ecause we conclude that the text of the statute unambiguously supports Petitioners’ reading, we resolve the case without resort to any deference to EPA under *Chevron, USA, Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984).” *Id.* This is error.

When confronted with this type of statutory interpretation question, the court is constrained by the familiar *Chevron* doctrine. Under the first prong of *Chevron*, the court must determine whether Congress “has directly spoken to the precise question at issue.” *Chevron, USA, Inc. v. NRDC, Inc.*, 467 U.S. 837, 842 (1984). In other words, the question under *Chevron*’s first prong is whether the plain language yields only one possible interpretation or is ambiguous. *See id.* at 842–43. What a court concludes is the best reading of the statute does not satisfy this first prong of *Chevron*. Only a conclusion that there is a single possible interpretation of the statute will suffice to end the inquiry at step one. If the statute is ambiguous, the court proceeds to the second prong of *Chevron*. *See Util. Solid Waste Activities Grp. v. EPA*, 901 F.3d 414, 451 (D.C. Cir. 2018) (Henderson, J., concurring) (“If ‘the reality is that [the statute] is ambiguous,’ it is our duty to declare it so and proceed

to the second step of the *Chevron* analysis.” (quoting *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 395 (1999))). That inquiry requires the court to consider whether the agency’s interpretation is reasonable. *Chevron, USA, Inc.*, 467 U.S. at 843, 845. If it is, the agency prevails. Again, it does not matter whether the court concludes there is a “better” interpretation. *See Am. Forest & Paper Ass’n v. FERC*, 550 F.3d 1179, 1183 (D.C. Cir. 2008) (“Step two of *Chevron* does not require the best interpretation, only a reasonable one.”).

In this case, the statute does not directly address the precise question at issue. As the agency explains, the term “emission standards,” despite its susceptibility to being understood as source specific in section 112(d)(1), is statutorily defined in the Act to refer to toxic-specific, not source-specific, standards. EPA Br. at 28–29. For example, another section of the Act defines the term “emission standards” as “a requirement . . . which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under [the Act].” 42 U.S.C. § 7602(k). The majority concludes that this “generally applicable definition” “do[es] not support [EPA’s] contention that an emission standard is a limit on an individual pollutant, as opposed to a regulation governing the set of pollutants emitted by a source category.” *See* Maj. Op. 15. But, in concluding so, the majority misses the point. The point is that this definition highlights that the Act is relatively unclear about what the term “emission standards” means. True, in context, section 112(d) might be understood to refer to “emission standards” as the whole collection of standards regulating the emission of pollutants by a particular category as the majority suggests. But because the generally applicable definition appears to

define “emission standards” as toxic-specific standards detached from any particular source category, I cannot conclude that section 112(d) unambiguously forecloses EPA’s interpretation.

Further, although the majority characterizes the reference to “emission standards” in section 112(d)(1) as a statutory definition of the term, *see* Maj. Op. 15, that particular provision does not contain any explicit definitions at all. In fact, section 112(a) contains definitions specific to that section, but it does not include “emission standards” among them. Moreover, section 112(d)(6) is explicitly aimed towards addressing developments in technology that have occurred in the eight years since the emission standards were promulgated or last reviewed and revised. *See* 42 U.S.C. § 7412(d)(6). Unlike the majority, I conclude that, while section 112(d)(6) does not clearly restrict EPA from addressing missing emission limits during its review and revision, it also does not clearly require EPA to promulgate such missing limits at that time.

In its effort to adopt what it views as the best interpretation of the statute, the majority ignores this ambiguity and the resultant duty to defer to the agency’s interpretation. That said, the statute is capable of being understood as the Petitioners and the majority interpret it. Indeed, the fact that the statute is susceptible to both interpretations is precisely why we must defer to the agency’s interpretation. To be sure, were I not constrained by *Chevron*, I might agree with the majority’s interpretation. Under *Chevron*, however, even were I to agree that the majority’s interpretation is “better,” that does not matter. To survive review under the *Chevron* standard, an agency’s decision needs only to be reasonable. EPA’s interpretation is eminently reasonable. As EPA stated, the terms review and revise more naturally refer to something that does exist rather than something that should exist. EPA Br. at

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20. Moreover, the same statutory usages of the phrase “emission standards” discussed above underline not only the ambiguity of the statute but the reasonableness of the agency’s interpretation. Accordingly, I would uphold EPA’s action in this case as required under *Chevron*.