United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued April 10, 2008

Decided June 6, 2008

No. 07-1053

NATURAL RESOURCES DEFENSE COUNCIL AND LOUISIANA ENVIRONMENTAL ACTION NETWORK, PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, RESPONDENT

AMERICAN CHEMISTRY COUNCIL, INTERVENOR

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

John D. Walke argued the cause for petitioners. With him on the briefs were Aaron S. Colangelo, Patrice Simms, Adam Babich, and Jill Witkowski.

David S. Gualtieri, Attorney, U.S. Department of Justice, argued the cause for respondent. With him on the brief were John C. Cruden, Deputy Assistant Attorney General, and Michael W. Thrift, Counsel. Kent E. Hanson, Attorney, U.S. Department of Justice, entered an appearance.

Leslie A. Hulse, Charles H. Knauss, Robert S. Taylor, and Robert V. Zener were on the brief for intervenor.

Before: GRIFFITH and KAVANAUGH, Circuit Judges, and SILBERMAN, Senior Circuit Judge.

Opinion for the court filed by Senior Circuit Judge SILBERMAN.

SILBERMAN, Senior Circuit Judge: Synthetic organic chemicals have few direct consumer uses, but they often serve as raw materials in the production of plastics, rubbers, fibers, protective coatings, and detergents. Petitioners, the Natural Resources Defense Council and the Louisiana Environmental Action Network, challenge EPA's residual risk rulemaking under subsection 112(f) of the Clean Air Act for facilities that use or produce synthetic organic chemicals ("the industry"). Petitioners also challenge EPA's technology review under subsection 112(d)(6). In a rather unusual bit of rulemaking, the agency determined by rule not to change its previous rule, which gave rise to petitioners' challenge. We deny the petition.

I.

Section 112 of the Clean Air Act regulates hazardous air pollutants. When the Act was passed in 1970, hazardous air pollutant was defined as a substance "which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating irreversible, illness." *Sierra Club v. EPA*, 353 F.3d 976, 979 (D.C. Cir. 2004) (citation omitted). The Administrator of the EPA was required to prepare a list of air pollutants that fell within this definition, then promulgate standards to protect the public health from these substances with an "ample margin of safety." *Id.*

As we have explained, this arrangement proved problematic. *Id*. In light of unrealistic time frames and scientific uncertainly over which substances posed a threat to public health, EPA only listed eight pollutants as hazardous between 1970 and 1990. *Id*. In 1990, Congress sought to hasten the process by adopting a new regulatory approach for hazardous air pollutants. Rather than have EPA list one-by-one those substances likely to be harmful, the amended version of section 112 provides a list of 191 substances that Congress deemed to be hazardous. 42 U.S.C. § 7412(b)(1). EPA could subsequently add to or subtract from this list. *Id*. § 7412(b)(2)-(3).

Instead of basing its regulations on health risks (the "ample margin of safety"), EPA was required by the 1990 amendments to adopt technology-based standards in the first instance. That is to say, in the first round of regulation, the agency was obliged to look to the best available control technology to control emissions for each category of major sources that emits one or more of the listed hazardous air pollutants. Id. § 7412(d)(2)-(3). (The control technology used to meet this standard is referred to as the "maximum achievable control technology" or "MACT.") Under this technology-based approach, standards for new sources may not be less stringent than "the emission control that is achieved in practice by the best controlled similar source." Id. § 7412(d)(3). And for existing sources, the emission standards may not be less stringent than "the average emission limitation achieved by the best performing 12 percent

¹ The Act defines "major source" as "any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants." 42 U.S.C. § 7412(a)(1).

of the existing sources." *Id.* After setting the "floor" – *i.e.*, the minimum required reduction in emissions for a new or existing source – EPA has discretion to require an even greater reduction in emissions, taking into account costs, health effects, environmental effects, and energy requirements.² *Id.* § 7412(d)(2).

In the second stage of regulation, EPA was obliged to review any residual health risks that had not been eliminated by the initial technology-based standards. *Id.* § 7412(f). This second stage is described as "risk-based" or "health-based" because it requires EPA to set a standard based on a medical assessment of a given pollutant's health risks (as was true of the pre-1990 statute), rather than the current state of control technology. *See generally* Percival, Schroeder, Miller & Leape, ENVIRONMENTAL REGULATION: LAW, SCIENCE & POLICY 126 (4th ed. 2003). Within six years of promulgating the technology-based standards, EPA was required to prepare a report to Congress analyzing any residual health risks. If Congress did not act on the report, then EPA was to conduct residual risk analysis under subsection 112(f)(2).

* * *

EPA initially promulgated technology-based emission standards for the industry in 1994 (there are 238 facilities in the

² Although EPA considered costs (as we discuss *supra*) in setting its technology-based standards, we subsequently held that it was not appropriate to consider costs in establishing the maximum achievable control technology "floor" (although the agency is permitted to consider cost in deciding whether to require further "beyond the floor" reductions). *See Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 640 (D.C. Cir. 2000); *see also NRDC v. EPA*, 489 F.3d 1364, 1375-76 (D.C. Cir. 2007).

United States that produce or use synthetic organic chemicals).³ Those standards required the use of control technologies such as recovery devices, thermal oxidizers, carbon absorbers, and steam strippers. After submitting the required report to Congress in 1999, the agency commenced residual risk rulemaking, apparently because – as we discuss below – it read the statute as requiring a rulemaking proceeding to consider whether to revise the technology-based standards, since the industry's emissions pose lifetime excess cancer risks of greater than one-in-one million.

In the notice of proposed rulemaking, EPA listed two options for the residual risk rulemaking, one of which would have imposed somewhat stricter standards. 71 Fed. Reg. 34,422, 34,438 (2006). But the other, which EPA adopted in the final rule, 71 Fed Reg. 76,603 (2006), was a reaffirmation of the EPA determined that under the existing existing rule. technology-based standard, no individual would face an excess lifetime cancer risk of greater than 100-in-one million, which EPA regards as the "presumptively acceptable" level under its precedents. In the same regulatory procedure, EPA sought to satisfy another statutory requirement, subsection 112(d)(6), which commands the Administrator to "review, and revise as necessary" the technology-based standards in light of technological developments at least every eight years. 42 It concluded there were no such U.S.C. § 7412(d)(6). developments.

Petitioners challenge EPA's actions on several grounds. Their primary argument is one of statutory construction. They contend that the statute obliged EPA, in the residual risk rulemaking, to tighten the standards for the industry so that the

³ See National Emission Standards for Organic Hazardous Air Pollutants, 59 Fed. Reg. 19,402 (1994).

lifetime excess cancer risk to exposed persons would be no greater than one-in-one million. It is also argued that in reviewing the technology-based standards, EPA violated subsection 112(d)(6) by taking costs into account. Alternatively, even if EPA complied with the statute, petitioners claim that the rulemaking violated the APA, as arbitrary and capricious, because it relied on faulty data and overlooked significant sources of emission.

II.

A.

Petitioners contend that subsection 112(f)(2)(A) obliged EPA to revise industry standards to reduce lifetime excess cancer risk to one-in-one million. Petitioners rely primarily on the last sentence of that subsection, whereas EPA looks to the whole subsection. That provision states in full:

If Congress does not act on any recommendation submitted under paragraph (1), the Administrator shall, within 8 years after promulgation of standards for each category or subcategory of sources pursuant to subsection (d) of this section, promulgate standards for such category or subcategory if promulgation of such standards is required in order to provide an ample margin of safety to protect public health in accordance with this section (as in effect before November 15, 1990) or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. Emissions standards promulgated under this subsection shall provide an ample margin of safety to protect public health in accordance with this section (as in effect before November 15, 1990), unless the Administrator determines that a more

stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. If standards promulgated pursuant to subsection (d) of this section and applicable to a category or subcategory of sources emitting a pollutant (or pollutants) classified as a known, probable or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than one in one million, the Administrator shall promulgate standards under this subsection for such source category.

42 U.S.C. § 7412(f)(2)(A).

It is undisputed that facilities that produce or use synthetic organic chemicals emit carcinogens and are, therefore, within the reach of the last sentence. It is also undisputed that, in light of the fact that existing technology-based standards do not reduce the risk to less than one-in-one million, EPA was obliged to "promulgate standards" under subsection 112(f). Petitioners contend that the third sentence obviously means that residual risk standards must meet the threshold test -i.e., EPA must reduce such risks to one-in-one million. That may well be a possible interpretation, but the sentence contains a glaring omission; it does not say what petitioners would like us to infer. Rather, that sentence instructs the Administrator to "promulgate standards," but it says nothing about the substantive content of those standards. If Congress had wished to set a "bright line" standard, it would have been rather easy for the draftsmen to say just that. The failure to do so could not have been accidental. In light of the rest of the subsection's language (and other provisions), it seems to us that the subsection was drafted as a deliberately ambiguous compromise.4

We reach that conclusion because the second sentence, which sets forth the substantive standard to be applied, simply calls for standards that "provide an ample margin of safety to protect public health" (unless the Administrator wishes to go further to avoid adverse environmental effects). No distinction is drawn between carcinogens and non-carcinogens. The third sentence, on which petitioners rely, not only lacks the language that petitioners ask us to infer; it also specifically states that if the one-in-one million trigger is met, the Administrator must promulgate standards "under this subsection," which, perforce, takes us back to the second sentence.⁵

EPA's construction of the subsection is bolstered by another paragraph, 112(f)(2)(B), which states:

⁴ Congress rejected the Senate version of the bill – which mandated a bright line standard for carcinogens – in favor of the House version, which gave the Secretary more discretion under the "ample margin of safety" standard. *Compare* A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 4445, *with id.* at 2139-40.

⁵ As one commentator has noted, subsection 112(f)(2) "does not require that the residual risk standard for a category be set at a level that would force the highest risk source in that category to achieve the one-in-one-million benchmark, but merely mandates an additional round of regulation." Bradford C. Mank, What Comes After Technology: Using an "Exceptions Process" to Improve Residual Risk Regulation of Hazardous Air Pollutants, 13 STAN. ENVTL. L.J. 263, 276 (1994). The author continues: "By not requiring a one-in-a-million or any other residual risk standard in section 112(f), Congress essentially left the difficult task of defining an 'ample margin of safety' to the EPA's discretion." *Id.* at 277.

Nothing in subparagraph (A) or in any other provision of this section shall be construed as affecting, or applying to the Administrator's interpretation of this section, as in effect before November 15, 1990, and set forth in the Federal Register of September 14, 1989 (54 Federal Register 38044).

42 U.S.C. § 7412(f)(2)(B). The cited item in the Federal Register is EPA's emission standard for benzene, which is a carcinogenic hazardous air pollutant. In the Benzene rulemaking, EPA set forth its interpretation of "ample margin of safety," as that term was used in the 1970 version of the Clean Air Act. It said that the "ample margin" was met if as many people as possible faced excess lifetime cancer risks no greater than one-in-one million, and that no person faced a risk greater than 100-in-one million (one-in-ten thousand). 54 Fed. Reg. at 38,044-45. In other words, the *Benzene* standard established a maximum excess risk of 100-in-one million, while adopting the one-in-one million standard as an aspirational goal. This standard, incorporated into the amended version of the Clean Air Act, undermines petitioners' assertion that EPA must reduce residual risks to one-in-one million for all sources that emit carcinogenic hazardous air pollutants.

Petitioners respond that subsection 112(f)(2)(B) is a savings clause that only preserves EPA's specific regulations regarding benzene. But the text belies this contention. Subsection 112(f)(2)(B) makes clear that nothing in subparagraph (A) shall be construed as "affecting, or applying to the Administrator's interpretation" of section 112, as set forth in the *Benzene* standard. The word "interpretation" indicates that the savings clause is not limited to EPA's benzene-specific determinations, but applies broadly to the agency's construction of the Clean Air Act in the *Benzene* standard. Petitioners also contend that subsection (B) should only be read as applying to non-

carcinogens, but this is not persuasive. Subsection 112(f)(2)(B) incorporates EPA's "interpretation" of the Clean Air Act from the *Benzene* standard, and the text of this provision draws no distinction between carcinogens and non-carcinogens. Indeed, benzene is itself a carcinogen, 54 Fed. Reg. at 38,048, so it would make little sense for Congress to incorporate this standard only for non-carcinogens.

The parenthetical clause in the second sentence of subsection 112(f)(2)(A) lends further support to EPA's position. That sentence states "[e]missions standards promulgated under this subsection shall provide an ample margin of safety to protect public health in accordance with this section (as in effect before November 15, 1990)" EPA interprets the parenthetical as a "shorthand reference" to the *Benzene* standard, given that subsection (B) uses almost identical language, incorporating "the Administrator's interpretation of this section, as in effect before November 15, 1990, and set forth in the Federal Register" The phrase "this section (as in effect before November 15, 1990)" is certainly broad enough to encompass EPA's prior interpretations of "this section" as well as the text itself. In fact, the operative provision of the pre-1990 version of section 112 uses the exact same "ample margin of safety" language as subsection 112(f)(2)(A) currently uses. See Sierra Club, 353 F.3d at 979-80. Thus, the parenthetical must refer to something more than the bare text of "this section," or else it would be surplusage.

Petitioners insist that EPA's interpretation renders the third sentence effectively meaningless. To be sure, the third sentence, as EPA interprets it, seems relatively anodyne; it lacks substantive force. But, at least as EPA reads it, the word "promulgate" means the agency is obliged to conduct a rulemaking to consider residual risks for sources that emit carcinogens. That extra procedural step is not a trivial

obligation. Congress often imposes procedural requirements without dictating substantive outcomes. See, e.g., Strycker's Bay Neighborhood Council v. Karlen, 444 U.S. 223, 227-28 (1980) (discussing the National Environmental Policy Act). We also disagree with petitioners' argument that EPA did not "promulgate standards" under subsection 112(f)(2) because it simply readopted the initial standards. This position finds no support in the text of the statute. Subsection 112(f)(2) only mandates that residual risk standards "provide an ample margin of safety to protect public health." If EPA determines that the existing technology-based standards already provide an "ample margin of safety," then the agency is free to readopt those standards during a residual risk rulemaking.

Finally, petitioners argue that EPA unlawfully considered cost while setting the "ample margin of safety" in the residual risk standards. Petitioners are correct that the Supreme Court has "refused to find implicit in ambiguous sections of the [Clean Air Act] an authorization to consider costs that has elsewhere, and so often, been expressly granted." Whitman v. Am. Trucking Ass'n, 531 U.S. 457, 467 (2001). In this case, however, we believe the clear statement rule has been satisfied. As explained above, subsection 112(f)(2)(B) expressly incorporates EPA's interpretation of the Clean Air Act from the Benzene standard, complete with a citation to the Federal Register. rulemaking, EPA set its standard for benzene "at a level that provides 'an ample margin of safety' in consideration of all health information . . . as well as other relevant factors *including* costs and economic impacts, technological feasibility, and other factors relevant to each particular decision." 54 Fed. Reg. at 38,045 (emphasis added). EPA considered cost in *Benzene*, and subsection 112(f)(2)(B) makes clear that nothing in the amended version of the Clean Air Act shall "affect[]" the agency's interpretation of the statute from that rulemaking.

In sum, we conclude that EPA's interpretation of subsection 112(f)(2), although not an inevitable one, certainly is, at least, a reasonable construction of the statute. *See Chevron U.S.A.*, *Inc. v. NRDC*, 467 U.S. 837, 843 (1984).

В.

Petitioners' second statutory argument is based on subsection 112(d)(6), which states:

The Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emissions standards promulgated under this section no less often than every 8 years.

42 U.S.C. § 7412(d)(6). It is argued that EPA was obliged to completely recalculate the maximum achievable control technology – in other words, to start from scratch. We do not think the words "review, and revise as necessary" can be construed reasonably as imposing any such obligation. Even if the statute did impose such an obligation, petitioners have not identified any post-1994 technological innovations that EPA has overlooked.

More troublesome, however, is petitioners' assertion that the agency improperly considered costs in considering whether to revise the standards. EPA did, in fact, state in its notice of proposed rulemaking that "leakless components" should not be considered the "maximum achievable control technology" because of the high cost of replacing existing components. 71 Fed. Reg. at 34,438. That could be thought in tension with our cases holding that EPA may not consider costs in setting the maximum achievable control technology "floors," but only in determining whether to require "beyond the floor" reductions in

emissions.⁶ See Nat'l Lime Ass'n v. EPA, 233 F.3d 625, 640 (D.C. Cir. 2000); see also NRDC v. EPA, 489 F.3d 1364, 1375-76 (D.C. Cir. 2007). EPA may have done just that in setting the initial floors. Yet the time period for challenging those standards has long since passed, 42 U.S.C. § 7607(b)(1), which raises the question whether EPA's reaffirmation of its cost-based reasoning in its technology review gives rise to a new opportunity for petitioners to challenge this apparent defect.⁷

Fortunately, we do not have to decide this question because in its final rule, EPA squarely found that there were no "significant developments in practices, processes and control technologies," and petitioners do not challenge this conclusion. 71 Fed. Reg. at 76,605. Since that is the core requirement of subsection 112(d)(6) and EPA's finding satisfies that requirement, it is irrelevant whether EPA considered costs in arriving at the initial MACT floor and reaffirming that standard in the residual risk rulemaking. Petitioners argue that EPA's consideration of cost somehow "tainted" the entire technology review. But under the deferential "arbitrary and capricious"

As we indicated, *supra*, costs may be considered in appraising risk – *i.e.*, the "ample margin of safety." 42 U.S.C. § 7412(f)(2)(B); 54 Fed. Reg. at 38,045.

⁷ In its brief, EPA asserts that it may consider "cost," but the agency draws no distinction between MACT floors and beyond-the-floor reductions. Nor does the agency address our decision in *National Lime*. Petitioners, on the other hand, do not discuss the significance of the fact that the initial MACT standards were unchallenged.

⁸ Even if petitioners did dispute this point, it involves a factual finding; we would thus grant significant deference to the agency's conclusion. *See NRDC v. EPA*, 194 F.3d 130, 136 (D.C. Cir. 1999).

standard, we may not set aside an agency's factual finding based on amorphous allegations of "taint."

III.

There remains petitioners' claim that EPA's analysis of the residual health risks from facilities that use or produce synthetic organic chemicals was arbitrary and capricious (unreasonable). In conducting its risk assessment, EPA relied upon industry-supplied data – collected by the American Chemistry Council – that was submitted on a questionnaire approved by the agency. Based on this data, EPA determined that no source presented a lifetime cancer risk of greater than 100-in-one million, and that only two sources presented a risk equal to that threshold. Petitioners argue that EPA should have handled the data collection itself, and that the industry-supplied data was defective in several respects.

Under section 114 of the Clean Air Act, EPA "may require" the owner of an emissions source to keep records, make reports, install monitoring equipment, take emissions samples, and "provide such other information as the Administrator may reasonably require." 42 U.S.C. § 7414(a). Petitioners contend that EPA's risk analysis was flawed because the agency did not exercise its authority under that section; instead, EPA relied upon data voluntarily supplied by the industry. But section 114 is not a mandatory provision – it only states that EPA "may" require sources to supply data. This wording gives the Administrator discretion to decide what types of data should be used for a risk assessment. Indeed, EPA has explained that relying on data from industry sources is a well-established practice. In its 1999 report to Congress on how the agency planned to address residual risks, EPA stated that "source and emissions data can be derived from broad-scale emissions

inventories, specific data collection efforts with particular industries, or information from regional, State, or local air toxics agencies." Residual Risk Report to Congress (Mar. 1999), at 35 (emphasis added). As EPA's counsel explained at oral argument, it is very costly and time-consuming – for both the agency and the emissions sources – to issue information requests under section 114. Tr. of Oral Arg. at 21-22. It was therefore not unreasonable for the agency to decline to invoke its section 114 authority when more efficient data-collection methods were available.

Nevertheless, petitioners assert that the industry-supplied data was flawed. They contend that many of the questionnaires were incomplete, and that the data will understate health risks because high-emissions sources have an incentive to withhold data from the agency. Although there were some gaps in the data, EPA ultimately received responses from 44% of all sources, including sources with both low and high emissions levels. The agency also explained that when certain data points were missing, EPA used "environmentally protective defaults" in its models. (Petitioners do not dispute this point.) In other words, EPA acknowledged that the data was not comprehensive, but compensated for this uncertainty by erring on the side of protecting public health. We think that is a reasonable position.

We also disagree with petitioners' assertion that the emissions data – which dated back to 1999 – was unreliable. Although the risk assessment was completed in 2006, it obviously began much earlier than that. Data from 1999 seems a bit old, but EPA explained that a significant amount of time was needed to collect the data, run the models, analyze the results, and prepare the rulemaking. EPA persuasively argues that by 1999, the technology-based standards had already been in place for several years, so it was unlikely that there would be a substantial increase in emissions between 1999 and 2006.

Petitioners, moreover – and this is a key omission – do not assert that emissions *actually* increased over this period.

EPA compared the industry-supplied data to the National Emissions Inventory, which is a database of air emissions information supplied by state and local air agencies, tribes, and industry sources. The agency determined that the two data sets yield similar results in terms of maximum risk. Petitioners challenge this conclusion, pointing to specific facilities in which the Emissions Inventory data show higher risks than the industry-supplied data. But EPA explained that the Emissions Inventory data for each facility includes hazardous air pollutants other than synthetic organic chemicals, which means that the Emissions Inventory is likely to show higher risks than the industry-supplied data. Intervenors further emphasize that in at least one of the three "high risk" facilities in the Emissions Inventory data, the emissions of synthetic organic chemicals were less than half of the facility's overall emissions. EPA noted that the Emissions Inventory included conservative assumptions that caused this data set to overstate the risks from synthetic organic chemicals. And EPA never contended that the two data sets perfectly overlapped; it only stated that "the highest risks from using the [Emissions Inventory] data were of the same order of magnitude as those using the industry data." 71 Fed. Reg. at 76,607.

Be that as it may, EPA's analysis of the Emissions Inventory data was only used to check the agency's risk analysis based on the industry-supplied data. Even if the correlation were not perfect, that would not necessarily show that EPA's use of industry-supplied data was unreasonable. Indeed, even though the industry data does not include as many facilities as the Emissions Inventory data, it is more detailed in other ways.

⁹ See http://www.epa.gov/ttn/chief/net/neiwhatis.html.

For example, the industry data provides far greater detail on emission point locations and release parameters than the Emissions Inventory.

In sum, petitioners' arguments boil down to one simple point: EPA could have used *better* data in conducting its risk analysis. Whether or not this is true, it misstates the inquiry under the arbitrary and capricious standard. As we have explained:

EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to invest the resources to conduct the perfect study.

Sierra Club v. EPA, 167 F.3d 658, 662 (D.C. Cir. 1999) (citation omitted). In other words, the sole question before us is whether EPA has acted reasonably, not whether it has acted flawlessly. On the record before us, EPA explained why it chose to rely on industry-supplied data, and it reasonably responded to petitioners' objections to its data analysis.

* * *

Petitioners finally argue that EPA failed to address several different types of emissions from synthetic organic chemical manufacturing facilities, such as emissions from cooling towers, emissions of inorganic hazardous air pollutants, and emissions from "clusters" of nearby facilities. In making these arguments, petitioners often reiterate their contentions that EPA relied upon faulty data and did not reduce risks to one-in-one million. We rejected those arguments above, and we need not address them again here. With respect to the other arguments, we have considered them and we find them to be without merit. EPA

adequately responded to each of the alleged deficiencies in the residual risk assessment.

IV.

For the aforementioned reasons, the petition for review is denied.

So ordered.