

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued March 13, 2000 Decided May 5, 2000

No. 99-1048

Environmental Defense Fund, et al
Petitioners

v.

Environmental Protection Agency,
Respondent

Edison Electric Institute, et al.,
Intervenors

Consolidated with
No. 99-1049

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

David R. Case argued the cause for petitioners. With him
on the briefs was Karen Florini.

Norman L. Rave, Jr., Attorney, U.S. Department of Justice, argued the cause for respondent. With him on the brief were Lois J. Schiffer, Assistant Attorney General, and Alan Carpien, Attorney, Environmental Protection Agency. Christopher S. Vaden, Attorney, U.S. Department of Justice, entered an appearance.

William K. Rawson, Claudia M. O'Brien, Douglas H. Green, Steven J. Groseclose, David F. Zoll, Katheryn W. Smith, Lynn L. Bergeson and Cara S. Jablon were on the joint brief for intervenors Chemical Manufacturers Association, et al.

Before: Silberman, Randolph and Rogers, Circuit Judges.

Opinion for the Court filed by Circuit Judge Rogers.

Rogers, Circuit Judge: The Environmental Defense Fund ("EDF") and the Environmental Technology Council ("ETC") petition for review of a final determination by the Environmental Protection Agency ("EPA") not to add fourteen solvent wastes to its list of hazardous wastes under Subtitle C of the Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended, 42 U.S.C. s 6921-6939b. Petitioners challenge two aspects of EPA's decision. First, petitioners contend that EPA made the scope of its listing rulemaking narrower than is permissible under the plain language of EPA's regulation governing such listing determinations. EPA analyzed whether the wastes produced when each of the fourteen chemicals is used as a solvent is hazardous. Such wastes usually consist of a number of constituent substances, but EPA limited its inquiry to whether the presence of the chemical solvent in the resulting waste was by itself a sufficient reason to list the waste as hazardous. Petitioners contend that EPA's regulation, 40 C.F.R. s 261.11(a)(3), which refers to "any toxic constituent," imposed on EPA the heavier burden of surveying the range of constituent substances comprising the waste before deciding not to list such wastes. Second, under EPA's regulation, EPA is to gauge

the risks posed by a waste in part by considering plausible mismanagement scenarios, and petitioners challenge EPA's decision that wastes produced when one chemical, isophorone, is used as a solvent could not plausibly be disposed of in a landfill, maintaining that EPA lacked sufficient data to make that decision, rendering it arbitrary.

We hold that because EPA's regulation is silent as to how EPA must conduct its listing inquiry and because EPA reasonably concluded that no wastes from the solvent use of isophorone were, or were likely to be, disposed of in landfills, EPA permissibly limited the scope of its rulemaking to the toxicity of the solvents and conducted a reasonable evaluation of plausible mismanagement scenarios for isophorone. Accordingly, we deny the petition for review.

I.

Congress enacted Subtitle C of RCRA, 42 U.S.C. ss 6921-6939b, to establish a "cradle-to-grave" regulatory structure providing for the safe treatment, storage, and disposal of hazardous waste. *Natural Resources Defense Council v. EPA*, 25 F.3d 1063, 1065 (D.C. Cir. 1994). Congress defined "hazardous waste" broadly in RCRA,¹ delegating to EPA the

1 "Hazardous waste" is:
a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may-

(A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

42 U.S.C. s 6903(5). "Solid waste" is "any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities...." *Id.* s 6903(27).

task of promulgating regulations identifying the characteristics of hazardous waste and listing specific wastes as hazardous. *Id.* Pursuant to this authority, EPA has promulgated listing criteria to determine whether solid wastes are hazardous. 40 C.F.R. s 261.11. Once listed as "hazardous," a waste is subject to significant regulation. See *Columbia Falls Aluminum Co. v. EPA*, 139 F.3d 914, 915 (D.C. Cir. 1998); *American Petroleum Institute v. EPA*, 906 F.2d 729, 733 (D.C. Cir. 1990) (citing 42 U.S.C. ss 6922-6925).

In 1984, Congress amended RCRA to require EPA to decide by February 1986 whether to list "solvents" as hazardous wastes. 42 U.S.C. s 6921(e)(2). When EPA did not act promptly, EDF filed suit seeking an order directing EPA to make a listing determination as to the hazardous nature

of certain solvents. The result was a consent decree requiring EPA to "promulgate a final listing determination for solvent wastes on or before May 31, 1997."² The consent decree specified that the "listing determination [was to] include the following spent solvent wastes, still bottoms from the recovery of the following solvents, and spent solvent mixtures: cumene, phenol, isophorone, acetonitrile, furfural, epichlorohydrin, methyl chloride, ethylene dibromide, benzyl chloride, ... p-dichlorobenzene, ... 2-methoxyethanol, 2-methoxyethanol acetate, 2-ethoxyethanol acetate, and cyclohexanol."³

The rulemaking under review is one of a series in which EPA has considered whether wastes from the use of specified chemicals as solvents should be listed as hazardous. See 51 Fed. Reg. 6537 (1986); 45 Fed. Reg. 74,884 (1980). To date, EPA has listed wastes from solvent use of approximately 30 chemicals. See 40 C.F.R. s 261.31, waste codes F001-F005. EPA determined that it could rely on the methodology it had used in the prior solvent rulemakings consistent with its

² The deadline was advanced one year on stipulation of EDF and EPA.

³ EPA asserts in its brief that the chemicals at issue are not general use solvents, but are used, if at all, in a variety of specialty applications because of price and other characteristics.

obligations under the consent decree. See 63 Fed. Reg. 64372, 64373 (1998).

After conducting its preliminary analysis, EPA issued a proposed rule on August 14, 1996, not to amend the solvent waste listing in 40 C.F.R. s 261.31 to include the fourteen solvent wastes. 61 Fed. Reg. 42,318, 42,138 (1996). Relying on its longstanding methodology, EPA stated that it was examining the toxicity of the spent solvents only, as opposed to any additional chemicals that might mix with the solvent to form a larger waste stream. See *id.* at 42,319-20. EPA explained that many of these solvent wastes are already regulated as hazardous waste because they either exhibit a hazardous waste characteristic or are mixed with other solvent wastes that are listed as hazardous. *Id.* at 42,319. EPA further explained that in limiting the scope of its proposed rule to "a determination only regarding the need for adding these specific wastes to the RCRA hazardous waste listings based on the specific criteria in the listing regulations," *id.* (emphasis added), it was exercising its broad discretion under RCRA and the consent decree "to reasonably define the scope of the listing determination." *Id.* at 42,320. This approach also was necessary as a practical matter, in EPA's view, because of the ubiquity of "solvents" in general. *Id.* 03 The proposed rule also identified the research and data gathered by EPA to determine "plausible mismanagement scenarios" for the solvents. *Id.* at 42,320-49.

Petitioners filed comments objecting to the limited scope of the proposed rule in view of the regulatory requirement to consider "any" hazardous constituents listed in Appendix VIII to 40 C.F.R. Part 261.4. Petitioners also argued that EPA had failed to consider all plausible mismanagement scenarios. Petitioners contended that because the universe of possible solvent uses is too large to capture all mismanagement scenarios through empirical study, EPA should have relied upon

⁴ ETC noted a general objection that "the hazardous constituents that are typically found in these solvents were not identified, nor were the risks posed by multiple hazardous constituents evaluated."

such "standard" mismanagement scenarios as those involving land disposal even if EPA's particular research did not suggest the presence of such disposal methods.

In the final rule, EPA concluded that the solvents should not be listed as hazardous wastes. 63 Fed. Reg. at 64,372. EPA reiterated that it defined "spent solvent wastes" solely in terms of the solvent constituents, and that in view of the large number of potential solvent waste combinations, practical necessity dictated this manner of proceeding. *Id.* at 64,373-74, 64,383. EPA defended its methodology for determining plausible waste mismanagement scenarios, and deemed implausible those management scenarios EDF asserted to be "plausible." *Id.* at 64,377-82, 64,383-85. EDF and ETC petition for review.

II.

Petitioners contend that EPA acted inconsistently with its regulation by limiting the scope of its rulemaking to solvents only, and that EPA acted arbitrarily and capriciously by relying on an industry-wide survey to identify plausible mismanagement scenarios for solvent wastes.⁵ The first contention turns on petitioners' interpretation of EPA's listing regulation; the second is limited by petitioners' focus on mismanagement scenarios for the solvent isophorone.

⁵ The court has jurisdiction to review EPA's determination not to amend 40 C.F.R. s 261.31 to include any of the fourteen solvent wastes under RCRA, 42 U.S.C. s 6976(a)(1), as a denial of a petition. The relevant petition is EDF's complaint in the district court that led to the consent decree upon which EPA acted. While the court in *American Portland Cement Alliance v. EPA*, 101 F.3d 772 (D.C. Cir. 1996), rejected the view that comments submitted during an agency initiated rulemaking constituted a petition for purposes of s 7006(a) review of the agency's deferral of rulemaking, *id.* 778-79, EDF's complaint in the district court led to the rulemaking proceeding in which EPA reached a non-listing decision, and thus served the function of a petition that EPA denied, thereby completing the regulatory process. See *id.* 779.

A.

EPA's listing regulation provides in pertinent part:

(a) The Administrator shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in subpart C.

(2) It has been found to be fatal to humans in low doses or.... [has been shown through laboratory studies or otherwise to be capable of causing severe illness or death].

(3) It contains any of the toxic constituents listed in appendix VIII and, after considering [certain enumerated] factors, the Administrator concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed....

40 C.F.R. s 261.11 (emphasis added).⁶ Petitioners focus on the italicized language of subsection (3) as requiring EPA to

⁶ EPA identified "enumerated factors" to be considered after determining the presence of a toxic constituent in the waste as:

- (i) The nature of the toxicity presented by the constituent.
- (ii) The concentration of the constituent in the waste.
- (iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this section.
- (iv) The persistence of the constituent or any toxic degradation product of the constituent.
- (v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.
- (vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

consider the presence of "any" hazardous constituents listed in Appendix VIII to 40 CFR Part 261, not just the solvent itself. Petitioners also maintain that to conclude otherwise would render meaningless the distinction between the routes to listing provided in subsections (1) and (2), which focus on the toxicity of the waste to be listed, and subsection (3), which focuses on the existence of toxic constituents in the waste and the potential for the waste to pose a health or environmental hazard when improperly managed. Further, because most of the solvents at issue are not listed in Appendix VIII of Part 261, petitioners maintain that EPA cannot construe s 261.11(a)(3), which refers to the presence of "toxic constituents listed in appendix VIII", to mean that the chemical solvent is the toxic constituent to be examined. In addition, petitioners contest EPA's view of the impracticality of examining other toxic constituents potentially present in the sol-

vent wastes.

The court is bound to accept " '[a]n agency's interpretation of its own regulations ... unless it is plainly wrong.' " *Chemical Waste Management, Inc. v. EPA*, 869 F.2d 1526, 1538-39 (D.C. Cir. 1989) (quoting *General Carbon Co. v. Occupational Safety and Health Review Comm'n*, 860 F.2d 479, 483 (D.C. Cir. 1988)). See also, e.g., *Natural Resources Defense Council v. EPA*, 25 F.3d 1063, 1068-69 (D.C. Cir. 1994); *Hazardous Waste Treatment Council v. Reilly*, 938 F.2d 1390, 1395 (D.C. Cir. 1991). Especially "on 'a highly technical question

(vii) The plausible types of improper management to which the waste could be subjected.

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(xi) Such other factors as may be appropriate.

40 C.F.R. s 261.11(a)(3).

... courts necessarily must show considerable deference to an agency's expertise.' " *Chemical Waste Management*, 869 F.2d at 1539 (quoting *MCI Cellular Tel. Co. v. FCC*, 738 F.2d 1322, 1333 (D.C. Cir. 1984)). We hold that EPA did not clearly err in interpreting its listing regulation to require only that it analyze the toxicity of the solvents, rather than other constituents with which the solvents might be combined.

Petitioners' "plain language" and supporting contentions are unpersuasive. Subsection (3), on which petitioners rely, merely provides a threshold that must be met before a listing determination may be made on the basis of constituent content: that is, that "any" Appendix VIII constituent be present in the waste. 40 C.F.R. s 261.11(a)(3). And the distinction relied on by petitioners between the three major listing criteria in s 261(a) demonstrates only that EPA has given itself the option of evaluating either toxic characteristics of the waste as a whole, s 261(a)(1) and (2), or of specific constituents within the waste, s 261(a)(3), and does not preclude the possibility that a waste may consist of one constituent, much less that in a particular rulemaking EPA will focus, pursuant to s 261(a)(3), on one constituent.⁷ That all of the solvents are not listed in Appendix VIII does not demonstrate error; EPA points out that it is routine to add a waste to Appendix VIII and simultaneously to list a waste as hazardous based on that constituent. See *Dithiocarbamate Task Force v. EPA*, 98 F.3d 1394, 1398 (D.C. Cir. 1996).⁸

⁷ Indeed, the consent decree defines the relevant "spent sol-

vent" wastes as the solvents, mandating that EPA evaluate "the following spent solvent wastes", and then listing the solvents alone.

8 Contrary to EPA's contention, petitioners' reference to the legislative history of 1984 delisting legislation, 42 U.S.C. s 6921(f), was properly raised in its reply brief in response to the statement in EPA's brief that in amending RCRA in 1984 Congress was aware of EPA's practice of making solvent listing determinations based solely on the toxicity of the solvent. Petitioners' legislative history argument fails substantively, however, because delisting is different from the imposition of reasonable restrictions on the scope of a listing determination.

It is also significant that EPA does not purport to have made a non-listing determination for specific solvent waste combinations without having evaluated the toxicity of those combinations; to the contrary, EPA made clear that its rulemaking concerns only the toxicity of the solvents. See, e.g., 63 Fed. Reg. at 64,383. There is nothing to suggest that EPA could not in the future examine specific solvent waste combinations on the basis that the specific waste combinations as a whole are toxic; many such wastes already are listed due to the existence of toxic constituents other than the solvent itself. 61 Fed. Reg. 42,319. EPA thus not only did not misinterpret its regulation, but did not abuse its discretion under its regulation.⁹

B.

To the extent that petitioners contend that EPA's risk analysis was flawed insofar as its study of "plausible mismanagement" scenarios was inadequate, petitioners focus only on the solvent isophorone. EPA's approach, as illustrated by its examination of isophorone, involved gathering data on those industry categories (known as "standard industry classifications", or "SIC"s) that might include facilities that use isophorone as a solvent, mailing preliminary questionnaires to facilities within those SICs, and then mailing more detailed,

⁹ Merely disputing EPA's evaluation of the impracticality of examining what presently is an unknown number of solvent waste combinations, as petitioners do, is not the same as demonstrating that EPA abused its discretion to limit the scope of its rulemaking under s 261.11(a)(3). Because we conclude that EPA did not abuse its discretion in analyzing only the solvents, we need not be detained by EPA's contention that petitioners failed in their initial brief to make an "arbitrary and capricious" challenge but relied instead on the broader contention that EPA had acted contrary to its listing regulation.

"Section 3007"¹⁰ questionnaires to those facilities for whom follow-up was warranted. Contending that EPA's initial literature search was insufficiently thorough to target all relevant SICs, petitioners argue first, that a number of isophorone users were discovered through "pure serendipity" when they were mailed surveys for other reasons, and that there thus is no way of knowing how many remaining isophorone users exist, and second, that EPA has not accounted for all known domestic and imported quantities of isophorone in the United States. More fundamentally, petitioners assert that the attempt to conduct a comprehensive industry survey was flawed from the beginning, and that a "random sampling" would have been a preferred approach, because the solvents are potentially used by so many facilities in so many different industries. As a result, petitioners conclude, EPA mistakenly assumed that it had isolated all potential isophorone mismanagement scenarios and improperly disregarded the "presumptive" mismanagement scenario of landfill disposal on the basis that this scenario did not match EPA's empirical data.

Upon considering petitioners' challenge to EPA's methodology, we hold that petitioners fail to show that EPA's action was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. s 706(2)(A). Rather, EPA's "reasons and policy choices ... conform to 'certain minimal standards of rationality'...." *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 520-21 (D.C. Cir. 1983) (citation omitted). See also, e.g., *Citizens*

¹⁰ The "RCRA s 3007 Solvent Use Questionnaire" was more detailed than EPA's preliminary questionnaire, and concerned the use of twenty-one chemicals as solvents, including the fourteen chemicals at issue here. EPA sent the s 3007 questionnaire to approximately 10% of the facilities to whom the preliminary questionnaire had been sent, given the responses from most facilities indicating either a lack of use of the chemicals as solvents, or small volume of use.

to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 416 (1971). EPA has demonstrated that a landfilling "presumption" did not necessarily apply in the case of isophorone. Rather, EPA concluded that the high organic content of isophorone found in EPA's survey called for a presumption of thermal treatment, such as incineration, combustion in a boiler, or fuel blending, given the fuel value of organic waste and the potential for liability arising from landfilling organic matter.¹¹ See 61 Fed. Reg. at 42,345; 63 Fed. Reg. at 64,384-85; 59 Fed. Reg. 66,072, 66,074 (1994). EPA employed a reasonable methodology in reaching this conclusion, both in analyzing isophorone data to determine the high organic content of the solvent, and in analyzing isophorone treatment to compare the presumptive thermal treatment of organic waste with the empirical reality of isophorone's disposal. While petitioners maintain that EPA's literature search was incomplete, EPA's decision to review the relevant literature to identify uses of isophorone by SIC code, and to limit its review of the publication Chemical Abstracts to a four-year period, was well within its discretion. As EPA pointed out, isophorone solvent use is extremely limited, and it is highly unlikely that a process that is still in use today would not be reported in recent publications. A four-year research limitation thus was a reasonable choice for EPA to make. Similarly, petitioners fail to show that EPA's methodology for compiling a facilities mailing list, which involved cross-referencing the SIC codes relevant to isophorone with other EPA data sources, was not reasonably designed to identify and contact

¹¹ The only wastes for which EPA's research indicated that landfilling might be a plausible management scenario were sludge from biological treatment and ash from combustion. 63 Fed. Reg. at 64,384. Because biological treatment and combustion are effective in destroying solvents, EPA could reasonably conclude that these residuals contained at most a de minimis amount of solvent, and thus would not pose a sufficient solvent-based risk to warrant listing. Id.

those facilities utilizing isophorone as a solvent. Such cross-referencing between the relevant SIC codes and EPA's Toxic Release Inventory ("TRI") for all facilities reporting the use of other TRI chemicals marks a thorough approach to scanning across facilities to determine possible isophorone users that would not otherwise be located. While there may be other ways to approach the task that EPA identified, EPA's approach was not arbitrary.

Furthermore, regarding petitioners' contention that EPA overlooked many isophorone-using facilities that were later identified through "pure serendipity", EPA points out that all of the facilities responding to its initial survey that claimed to use isophorone as a solvent were either included in the targeted SIC codes or mistakenly responded where their use of isophorone did not meet the definition of solvent use.¹² Similarly, a number of responses to the final survey mistakenly claimed non-solvent uses of isophorone, and hence the final number of reported responses differs from the number originally identified as potential survey recipients. More fundamentally, petitioners have provided no basis on which the court can conclude that "random sampling" would have produced more accurate data. So far as we can tell from petitioners' succinct statement, the advantage of random sampling arises from the fact that it purports to do no more than to gather representative facts from which to draw logical presumptions as to management scenarios, whereas EPA's "industry survey" risks analytical rigidity where the survey falls short of its task. However, EPA did no more than draw the logical conclusion of presumptive thermal treatment from the high organic content of the isophorone wastes surveyed, a conclusion confirmed by empirical waste treatment data and

¹² The mistaken responses of non-solvent isophorone use are recorded in telephone logs and other background documents.

thus supporting the reasonableness of EPA's methodology.¹³

Accordingly, we deny the petition for review.

¹³ For similar reasons, petitioners' argument that EPA might not have accounted for all isophorone produced or imported into the United States is a red herring. Even if EPA's survey did not account for all isophorone used as a solvent in the United States, its methodology provided a reliable approximation thereof, and thus a sound basis on which to presume plausible mismanagement scenarios from the high organic content of the isophorone surveyed, and to check that presumption against empirical data. In any event, petitioners concede EPA's point that the term "consumption" in the Chemical Economics Handbook--the value of which EPA's analysis was based on--includes imports to the United States. While petitioners argue that EPA's consumption figure is unlikely, as it would require United States import and export figures to match, it offers no evidence to suggest that the figure is incorrect.