

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT
UNITED STATES COURTHOUSE
333 CONSTITUTION AVENUE, N.W.
WASHINGTON, D. C. 20001-2866

GEORGE A. FISHER
CLERK

*Kathy
To your file*
GENERAL INFORMATION
(202) 535-3300

July 28, 1987

RE: No. 85-1150 - Natural Resources Defense Council, Inc. v. U.S. Environmental
Protection Agency and Lee Thomas, Administrator, U.S. Environmental
Protection Agency

Dear Counsel:

Enclosed herewith are three (3) copies of the opinion in the above
entitled case.

Please note that the judgment has been entered on the same date as
the opinion and is for mandate purposes only.

Sincerely,

Denise Thomas
Denise C. Thomas
Opinions Clerk

enclosures

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CMA 015399

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 85-1150

September Term, 1986

Natural Resources Defense Council, Inc.,
Petitioner

v.

U.S. Environmental Protection Agency and
Lee Thomas, Administrator, U.S.
Environmental Protection Agency,
Respondents

Vinyl Institute,

Intervenor

United States Court of Appeals
For the District of Columbia Circuit

FILED JUL 28 1987

GEORGE A. FISHER
CLERK

O R D E R

It is ORDERED, sua sponte, that the Clerk shall withhold issuance of the mandate herein until seven days after disposition of any timely petition for rehearing. See Local Rule 14, as amended on November 30, 1981 and June 15, 1982. This instruction to the Clerk is without prejudice to the right of any party at any time to move for expedited issuance of the mandate for good cause shown.

For The Court

George A. Fisher
Clerk

CMA 015400

(Type caption f lead cas only)

Consolidated Case Nos.

(the) (a) prevailing party in Appeal Nos. _____,
by counsel, and states that costs have been incurred in
said case(s) which should be taxed (solely) (jointly and
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- CMA 015401

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7) Sales Tax	_____	_____	_____	_____	_____
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APPENDIX 3/

1) Text	_____	_____	_____	_____	_____
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3/ Or copies of records authorized by Rule 30(f), FRAP.

It is understood that the Clerk will tax costs only against those parties specifically named herein and in an amount which does not exceed either the specific sum claimed or the total allowable amount determined in accordance with Local Rule 15. Should any party file an opposition to this bill of costs, or move to strike it, the matter will be referred to the Court and the Clerk will dispose of this bill of costs in accordance with instructions from the Court. The costs claimed are the actual costs incurred. A copy of the (printer's) (duplicator's) bill (is) (is not) attached.

Signature of Counsel

Counsel's address

Counsel's phone number

VERIFICATION*

ss:

Comes now _____, and being first duly sworn, does depose and state that (he) (she) signed the foregoing bill of costs, that the costs claimed therein were incurred in connection with the captioned appellate proceeding and, as set forth, are true and correct.

Subscribed and sworn to before the undersigned, a Notary Public, this _____ day of _____, 19____.

Notary Public

(Notary seal or stamp)

*In lieu of this sworn verification, an unsworn declaration in conformity with 28 U.S.C. §1746 may be substituted.

COUNSEL SHALL ATTACH A CERTIFICATE
OF SERVICE

CMA 015403

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No.

September Term, 19 80

IT IS ORDERED, by the Court, en banc, sua sponte, that Rule 15 of the General Rules of this Court is amended by deleting all of the present provisions thereof and by substituting in lieu thereof a new Rule 15 which shall be and read as follows:

RULE 15

FILED FEB 2 1981

TAXATION OF COSTS OF BRIEFS AND APPENDICES
GEORGE A. FISHER
CLERK

(a) Allowable items. Costs shall be taxable in conformity with Rule 39 of the Federal Rules of Appellate Procedure. Costs will be allowed for the docketing fee, the cost of printing or otherwise reproducing the text of 50 copies of briefs and 25 copies of appendices, any charges for indices, covers, footnotes, and tabular matter of briefs and appendices, and the sales tax, if any, for printing or reproduction services. Charges actually incurred for printing or reproducing textual and appendix material, indices, tabular matter and exhibits shall be itemized to show cost per page. Charges for footnotes shall be itemized to show cost per line. Costs for fasteners used in place of binding may be claimed as a separate item only for briefs and appendices reproduced by photocopy methods. Forms furnished by the Clerk's Office of this Court, or facsimiles thereof, must be used in requesting taxation of costs. Bills of costs in which costs are not itemized as herein described, or which are not presented on Clerk's Office forms (or reasonable facsimiles thereof), shall not be filed.

(b) Limit on costs of briefs and appendices to average charge for photo offset. The cost of reproducing necessary copies of briefs, appendices or copies of other records shall be taxable as costs in an amount equal to the actual cost but in no event higher than the average charge of a representative group of printers in the metropolitan Washington area for the photo-offset method of preparation of briefs and appendices. In June of each year, the Clerk will conduct a survey of a representative group of printers in the metropolitan Washington area and determine the average charge for the previously listed services done by the photo offset and photocopy methods. The average cost determined for each method shall be the maximum allowable amount that can be taxed for the following fiscal year. The Bar shall be notified of the results of this survey by appropriate publication.

CMA 015404

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No.

September Term, 19⁸⁰

-2-

(c) Limitation on number of copies. Costs for more than 50 copies of briefs and 25 copies of appendices will not be allowed except for extraordinary cause shown. There shall be no taxation of costs for briefs of intervenors or amici curiae or replies thereto unless ordered by the Court.

Per Curiam

Effective date: February 2, 1981

CMA 015405

United States Court of Appeals

UNITED STATES DISTRICT OF COLUMBIA CIRCUIT
1111 Constitution Avenue, N.E.
Washington, D.C. 20002

No. FILED JUN 15 1982

September Term, 19

GEORGE A. FISHER
CLERK

BEFORE: Robinson, CJ; Wright, Tamm, MacKinnon, Wilkey, Wald, Mikva,
Edwards, Ginsburg and Bork, Circuit Judges

ORDER

It is ORDERED, by the Court, *en banc*, *sua sponte*, that Rule 14 of the General Rules of this Court be, and it is hereby, amended by deleting all of the present provisions of subparagraph (a)(1) thereof, and by substituting in lieu of these provisions a new subparagraph (a)(1), which shall be and read as follows:

(a) Petitions for Rehearing and Suggestions for Hearing and Rehearing En Banc.

(1) *Time.* A party that suggests pursuant to Rule 35(b), Federal Rules of Appellate Procedure, the appropriateness of an initial hearing *en banc*, shall file the suggestion on or before the date on which appellee's brief is due to be filed. Any party that wishes to file a petition for rehearing pursuant to Rule 40, Federal Rules of Appellate Procedure, or a suggestion of the appropriateness of rehearing *en banc*, in a case in which neither the United States nor an agency or officer thereof is a party, shall do so within 30 days after entry of judgment. In all cases in which the United States, or an agency or officer thereof, is a party, the time within which any party may seek rehearing shall be 45 days after entry of judgment. The time for filing a petition for rehearing or a suggestion of the appropriateness of a rehearing *en banc* will not be extended except for good cause shown.

Per Curiam

FILED: June 15, 1982

CMA 015406

FILED NOV 30, 1981 **United States Court of Appeals**
FOR THE DISTRICT OF COLUMBIA CIRCUIT

GEORGE A. FISHER

CLERK
No.

September Term, 19

BEFORE: Robinson, CJ; Wright, Tamm, MacKinnon, Robb, Wilkey, Wald,
Mikva, Edwards and Ginsburg, Circuit Judges

O R D E R

It is ORDERED, by the Court, en banc, sua sponte, that Rule 14 of the General Rules of this Court be, and it is hereby, amended by deleting all of the present provisions of subparagraphs (a)(1) and (b) thereof, and by substituting in lieu of these provisions new subparagraphs (a)(1) and (b), which shall be and read as follows:

(a) Petitions for Rehearing and Suggestions for Hearing and Rehearing En Banc.

(1) *Time.* A party who suggests pursuant to Rule 35(b), Federal Rules of Appellate Procedure, the appropriateness of an initial hearing en banc, shall file the suggestion on or before the date on which appellee's brief is due to be filed. A party who files a petition for rehearing pursuant to Rule 40, Federal Rules of Appellate Procedure, or a suggestion of the appropriateness of a rehearing en banc, shall do so within 30 days after entry of judgment or within 45 days if the United States or an agency or officer thereof is the moving party. The time for filing a petition for rehearing or a suggestion of the appropriateness of a rehearing en banc will not be extended except for good cause shown.

(b) *Mandates.* A petition for a stay of the issuance of mandate shall not be granted simply upon request. A stay shall not issue unless the petition sets forth facts showing good cause for the relief sought. While retaining discretion to direct immediate issuance of its mandate in an appropriate case, the Court will ordinarily include as a part of its disposition an instruction that the Clerk withhold issuance of the mandate until the expiration of the time for filing a petition for rehearing or a suggestion of the appropriateness of rehearing en banc and, if such petition or suggestion is timely filed, until seven days after disposition thereof. Such an instruction is without prejudice to the right of any party at any time to move for expedited issuance of the mandate for good cause shown. No mandate shall issue in connection with an order granting or denying a writ of mandamus or other special writ, but the order or judgment granting or denying the relief sought shall become effective automatically twenty-one (21) days after issuance in the absence of an order or other special direction of this Court to the contrary.

Per Curiam

FILED: November 30, 1981

CMA 015407

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT
UNITED STATES COURTHOUSE
333 CONSTITUTION AVENUE, N.W.
WASHINGTON, D. C. 20001-2866

GEORGE A. FISHER
CLERK

NOTICE

Pursuant to Rule 15 of the General Rules of this Court, the Clerk has conducted a survey of a representative group of printers in the metropolitan Washington, DC area and has determined the average charges for the reproduction of briefs and appendices to be as follows:

OFFSET METHOD

BRIEF (per page)	\$ 4.81
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APPENDIX (per page)	\$20.50
COVER	\$43.75
FOOTNOTES (per line)	.75
COLLATING & BINDING	included in page price
TABULAR MATTER (per page)	\$31.25

Costs will be allowed for 50 copies of the briefs and 25 copies of appendices.

CMA 015408

Notice: This opinion is subject to formal revision before publication in the Federal Reporter or U.S.App.D.C. Reports. Users are requested to notify the Clerk of any formal errors in order that corrections may be made before the bound volumes go to press.

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 85-1150

NATURAL RESOURCES DEFENSE COUNCIL, INC., PETITIONER

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY and
LEE M. THOMAS, ADMINISTRATOR, U.S. ENVIRONMENTAL
PROTECTION AGENCY, RESPONDENTS

VINYL INSTITUTE, INTERVENOR

Petition for Review of an Order of the
Environmental Protection Agency

Argued En Banc April 29, 1987

Decided July 28, 1987

David D. Doniger, for petitioner.

Peter R. Steenland, Attorney, Department of Justice,
with whom *Stephen L. Samuels*, *Margaret N. Strand*,
Michael W. Steinberg, *Mark P. Fitzsimmons*, Attorneys,

* Bills of costs must be filed within 14 days after entry of judgment. The court looks with disfavor upon motions to file bills of costs out of time.

CMA 015409

Department of Justice, *Francis Blake*, General Counsel, *William Pedersen*, Associate General Counsel, *Charles Carter*, Assistant General Counsel, and *Earl Salo*, Attorney, Environmental Protection Agency, were on the brief, for respondents.

Jerome H. Heckman, *Peter L. delaCruz*, *Gary H. Baise*, *Robert Brager*, *Brenda Mallory*, *Albert J. Beveridge III* and *Don G. Scroggin* were on the brief for intervenor, The Vinyl Institute.

Daniel Marcus was on the brief for *amicus curiae*, American Iron and Steel Institute, urging approval of Environmental Protection Agency action to withdraw proposed amendments to the vinyl chloride standard.

Robert V. Percival was on the brief for *amicus curiae*, Environmental Defense Fund, urging the grant of Natural Resources Defense Council's petition for review.

G. William Frick, *Martha A. Beauchamp*, *Arthur F. Sampson III* and *John Gibson Mullan* were on the brief for *amicus curiae*, The American Petroleum Institute, urging affirmance of the panel decision. *Stark Ritchie* and *Arnold Block* also entered appearances for the American Petroleum Institute.

David F. Zoll and *Neil Jay King* were on the brief for *amicus curiae*, Chemical Manufacturers Association, urging approval of Environmental Protection Agency action. *Frederic P. Andes* also entered an appearance for Chemical Manufacturers Association.

Frederick R. Anderson was on the brief for *amicus curiae*, Various Professors of Law, urging the reversal of the panel decision.

Before: WALD, Chief Judge, ROBINSON, MIKVA, EDWARDS, RUTH B. GINSBURG, BORK, STARR, SILBERMAN, BUCKLEY, WILLIAMS and D.H. GINSBURG, Circuit Judges.

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

BORK, *Circuit Judge*: Current scientific knowledge does not permit a finding that there is a completely safe level of human exposure to carcinogenic agents. The Administrator of the Environmental Protection Agency, however, is charged with regulating hazardous pollutants, including carcinogens, under section 112 of the Clean Air Act by setting emission standards "at the level which in his judgment provides an ample margin of safety to protect the public health." 42 U.S.C. § 7412(b)(1)(B) (1982). We address here the question of the extent of the Administrator's authority under this delegation in setting emission standards for carcinogenic pollutants.

Petitioner Natural Resources Defense Council ("NRDC") contends that the Administrator must base a decision under section 112 exclusively on health-related factors and, therefore, that the uncertainty about the effects of carcinogenic agents requires the Administrator to prohibit all emissions. The Administrator argues that in the face of this uncertainty he is authorized to set standards that require emission reduction to the lowest level attainable by best available control technology whenever that level is below that at which harm to humans has been demonstrated. We find no support for either position in the language or legislative history of the Clean Air Act. We therefore grant the petition for review and remand to the Administrator for reconsideration in light of this opinion.

I.

Section 112 of the Clean Air Act provides for regulation of hazardous air pollutants, which the statute defines as "air pollutant[s] to which no ambient air quality standard is applicable and which in the judgment of the Administrator cause[], or contribute[] to, air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness." 42 U.S.C. § 7412

(a)(1) (1982). The statute requires the Administrator to publish a list containing each hazardous pollutant for which he intends to adopt an emission standard, to publish proposed regulations and a notice of public hearing for each such pollutant, and then, within a specified period, either to promulgate an emission standard or to make a finding that the particular agent is not a hazardous air pollutant. *See id.* § 7412(b)(1)(B). The statute directs the Administrator to set an emission standard promulgated under section 112 "at the level which in his judgment provides an ample margin of safety to protect the public health." *Id.*

This case concerns vinyl chloride regulations. Vinyl chloride is a gaseous synthetic chemical used in the manufacture of plastics and is a strong carcinogen. In late 1975, the Administrator issued a notice of proposed rulemaking to establish an emission standard for vinyl chloride. 40 Fed. Reg. 59,532 (1975). In the notice, the EPA asserted that available data linked vinyl chloride to carcinogenic, as well as some noncarcinogenic, disorders and that "[r]easonable extrapolations" from this data suggested "that present ambient levels of vinyl chloride may cause or contribute to . . . [such] disorders." *Id.* at 59,533. The EPA also noted that vinyl chloride is "an apparent non-threshold pollutant," which means that it appears to create a risk to health at all non-zero levels of emission. Scientific uncertainty, due to the unavailability of dose-response data and the twenty-year latency period between initial exposure to vinyl chloride and the occurrence of disease, makes it impossible to establish any definite threshold level below which there are no adverse effects to human health. *Id.* at 59,533-34. The notice also stated the "EPA's position that for a carcinogen it should be assumed, in the absence of strong evidence to the contrary, that there is no atmospheric concentration that poses absolutely no public health risk." *Id.* at 59,534.

Because of this assumption, the EPA concluded that it was faced with two alternative interpretations of its duty under section 112. First, the EPA determined that section 112 might require a complete prohibition of emissions of non-threshold pollutants because a "zero emission limitation would be the only emission standard which would offer absolute safety from ambient exposure." 40 Fed. Reg. at 59,534. The EPA found this alternative "neither desirable nor necessary" because "[c]omplete prohibition of all emissions could require closure of an entire industry," a cost the EPA found "extremely high for elimination of a risk to health that is of unknown dimensions." *Id.*

The EPA stated the second alternative as follows:

An alternative interpretation of section 112 is that it authorizes setting emission standards that require emission reduction to the lowest level achievable by use of the best available control technology in cases involving apparent non-threshold pollutants, where complete emission prohibition would result in widespread industry closure and EPA has determined that the cost of such closure would be grossly disproportionate to the benefits of removing the risk that would remain after imposition of the best available control technology.

Id. The EPA adopted this alternative on the belief that it would "produce the most stringent regulation of hazardous air pollutants short of requiring a complete prohibition in all cases." *Id.*

On October 21, 1976, the EPA promulgated final emission standards for vinyl chloride which were based solely on the level attainable by the best available control technology. 41 Fed. Reg. 46,560 (1976). The EPA determined that this standard would reduce unregulated emissions by 95 percent. *Id.* With respect to the effect of the standard on health, the EPA stated that it had assessed the risk to health at ambient levels of exposure by extrapolating from dose-response data at higher levels of exposure and then made the following findings:

EPA found that the rate of initiation of liver angiosarcoma among [the 4.6 million] people living around uncontrolled plants is expected to range from less than one to ten cases of liver angiosarcoma per year of exposure to vinyl chloride Vinyl chloride is also estimated to produce an equal number of primary cancers at other sites, for a total of somewhere between less than one and twenty cases of cancer per year of exposure among residents around plants. The number of these effects is expected to be reduced at least in proportion to the reduction in the ambient annual average vinyl chloride concentration, which is expected to be 5 percent of the uncontrolled levels after the standard is implemented.

Id. The EPA did not state whether this risk to health is significant or not. Nor did the EPA explain the relationship between this risk to health and its duty to set an emission standard which will provide an "ample margin of safety."

The Environmental Defense Fund ("EDF") filed suit challenging the standard on the ground that section 112 requires the Administrator to rely exclusively on health and prohibits consideration of cost and technology. The EDF and the EPA settled the suit, however, upon the EPA's agreement to propose new and more stringent standards for vinyl chloride and to establish an ultimate goal of zero emissions.

The EPA satisfied its obligations under the settlement agreement by proposing new regulations on June 2, 1977. While the proposal sought to impose more strict regulation by requiring sources subject to a 10 parts per million ("ppm") limit to reduce emissions to 5 ppm, and by establishing an aspirational goal of zero emissions, the EPA made it clear that it considered its previous regulations valid and reemphasized its view that the inability scientifically to identify a threshold of adverse effects did not require prohibition of all emissions, but rather permitted regulation at the level of best available

technology. 42 Fed. Reg. 28,154 (1977). The EPA received comments on the proposal, but took no final action for more than seven years. On January 9, 1985, the EPA withdrew the proposal. Noting that certain aspects of the proposed regulations imposed "unreasonable" costs and that no control technology "has been demonstrated to significantly and consistently reduce emissions to a level below that required by the current standard," 50 Fed. Reg. 1182, 1184 (1985), the EPA concluded that it should abandon the 1977 proposal and propose in its place only minor revisions to the 1976 regulations.

This petition for review followed.

II.

We must address at the outset two procedural challenges to the NRDC's petition for review. First, an industry intervenor, the Vinyl Institute, argues that the petition for review is not timely filed. Second, the EPA argues that the NRDC has failed to exhaust its administrative remedies and that we must, therefore, dismiss the petition for review.

A.

The Vinyl Institute argues that this court does not have jurisdiction because the statute provides that "[a]ny petition for review . . . shall be filed within sixty days from the date notice of [the] promulgation, approval, or action appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review . . . shall be filed within sixty days after such grounds arise." 42 U.S.C. § 7607(b)(1) (1982). According to the intervenor, the NRDC seeks review of the 1976 standards and not of the 1985 withdrawal of the proposed amendments. Because grounds for that challenge arose more than sixty days before the NRDC filed the petition for review, the intervenor claims that the

petition is untimely. Under *Montana v. Clark*, 749 F.2d 740 (D.C. Cir. 1984), *cert. denied*, 106 S.Ct. 246 (1985), "an agency decision not to amend long-standing rules after a notice and comment period is reviewable agency action." *Id.* at 744. Thus, if the petition for review, filed within sixty days of the withdrawal of the proposed amendments, is a genuine challenge to the withdrawal of the proposed regulations, it was timely filed. If, by contrast, the Vinyl Institute is correct in asserting that this petition is a substantive attack on the 1976 regulations, we must dismiss the suit as untimely filed. See *Professional Drivers Council v. Bureau of Motor Carrier Safety*, 706 F.2d 1216, 1217-18 n.2 (D.C. Cir. 1983). We believe the former is the more accurate characterization of this lawsuit.

The contention that this case is a "back-door" challenge to the 1976 regulations is refuted by the substance of the petitioner's brief and the relief requested. The petitioner states that "[i]n withdrawing the proposed amendments the EPA violated the law by employing cost-benefit and technological feasibility tests that are prohibited by the Clean Air Act." Brief for NRDC at 3. Indeed, the brief makes explicit that the petitioner is specifically challenging the EPA's reliance on cost and technological feasibility in its withdrawal of the proposed amendments. *Id.* at 11-13. Additionally, the petitioner does not ask the court to overturn the 1976 standards, but rather asks the court to vacate the EPA's decision to withdraw the amendments. See Brief for NRDC at 36-37. We think it clear, therefore, that the NRDC has challenged the 1985 withdrawal of the proposed amendments. The petition for review is timely.

B.

The EPA argues that the petitioner has failed to exhaust available administrative remedies because it failed to participate in the proceedings below. Congress in-

cluded in section 307(d) of the Clean Air Act a statutory requirement of exhaustion, which provides that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review." 42 U.S.C. § 7607(d)(7)(B) (1982). This statutory requirement of exhaustion, however, does not apply here. The statute also provides that "[t]he requirements of . . . subsection [307(d) of the Act] shall take effect with respect to any rule the proposal of which occurs after ninety days after August 7, 1977." 42 U.S.C. § 7606(d)(11) (1982). The withdrawal of the proposed amendments is the final EPA action on a notice of proposed rulemaking that issued on June 2, 1977. See 42 Fed. Reg. 28,154 (1977). Thus, even if we assume that the action of withdrawing a proposed rule amounts to a "rule" for purposes of section 307(d), the proposal withdrawn here was issued before section 307(d) took effect. Accordingly, we must look to the common law doctrine of exhaustion of remedies. See *Safir v. Kreps*, 551 F.2d 447, 452 (D.C. Cir.), cert. denied, 434 U.S. 820 (1977). The result, however, is the same.

Courts have long required a party seeking review of agency action to exhaust its administrative remedies before seeking judicial review. See, e.g., *Myers v. Bethlehem Shipbuilding Corp.*, 303 U.S. 41, 50-51 (1938). In this case, the administrative remedy was participation in the rulemaking proceedings during the comment period. Indeed, this court generally requires such participation as a prerequisite to a petition for direct review of the resulting regulations. See *Environmental Defense Fund v. EPA*, 598 F.2d 62, 91 (D.C. Cir. 1978).

The NRDC did not participate in the rulemaking proceedings in this case, but argues that we should not dismiss its petition for review because the agency in fact considered the statutory issue raised in the petition. The

NRDC is correct. This court has excused the exhaustion requirements for a particular issue when the agency has in fact considered the issue. See *Washington Ass'n for Television & Children v. FCC*, 712 F.2d 677, 682 n.10 (D.C. Cir. 1983); *Etelson v. Office of Personnel Management*, 684 F.2d 918, 923 (D.C. Cir. 1982); *ASARCO, Inc. v. EPA*, 578 F.2d 319, 320-21 n.1 (D.C. Cir. 1978); *Safir v. Kreps*, 551 F.2d at 452. Thus, courts have waived exhaustion if the agency "has had an opportunity to consider the identical issues [presented to the court] . . . but which were raised by other parties," see *Buckeye Cablevision, Inc., v. United States*, 438 F.2d 948, 951 (6th Cir. 1971), or if the agency's decision, or a dissenting opinion, indicates that the agency had "the opportunity to consider" "the very argument pressed" by the petitioner on judicial review. *Office of Communication of the United Church of Christ v. FCC*, 465 F.2d 519, 523 (D.C. Cir. 1972).

In this case, the issue of whether the EPA may set a standard under section 112 on the basis of cost and technological feasibility was raised before the agency. First, the 1977 proposed amendments were the product of the settlement of a lawsuit challenging the previous vinyl chloride standards on the ground that the EPA impermissibly considered these factors. The EPA, therefore, had notice of this issue and could, or should have, taken it into account in reaching a final decision on the proposed amendments. Indeed, in its notice of proposed rule-making, the EPA remarked that "[t]he [1976] vinyl chloride standard has been criticized for allegedly placing unwarranted emphasis on technological rather than health considerations." 42 Fed. Reg. 28,154 (1977). The notice then continued by discussing the "ample margin of safety" language, the potential problem under this standard of shutting down an entire industry that produces a non-threshold pollutant, and the way the proposed amendments resolved the problem by moving toward zero emissions without banning vinyl chloride. *Id.* Thus, it is

clear that the EPA actually did consider the issue raised by the NRDC in its petition for review.

Moreover, the EDF explicitly raised the issue before the EPA in its comments on the proposed amendments. In this respect, the EDF stated:

The proposed amendments represent a true compromise between what EDF could have pressed for in court and the existing standard. Section 112 of the Clean Air Act requires that emission standards for hazardous air pollutants . . . be set "at a level which in the judgment of the Administrator provides an ample margin of safety to protect the public health from such hazardous air pollutants." It clearly requires a health-linked, not a technology-based standard. Yet, inconsistent with the statutory requirement, the original standards were based on what EPA believed industry could accomplish with best available technology. . . . EPA recognized that vinyl chloride is "an apparent non-threshold pollutant" which creates a risk to public health at all levels. Had the case gone to trial, EDF would have taken the position that § 112 required a zero emission standard, the only standard adequate to provide the required margin of safety for a non-threshold pollutant. Instead, EDF settled for a compromise which establishes a goal of zero emissions and requires industry to move one step closer to that goal.

J.A. at 72-73. The EDF's comments contain other similar references, such as the assertion, in response to cost arguments raised by the industry, that "the statute EPA operates under requires regulations based on protection of health and not cost and technology concerns." *Id.* at 83. Thus, the EPA had before it the question of whether the statute permits considerations of cost and technology in setting standards, and it had the opportunity to consider that question in deciding to withdraw the proposed amendments.

The EPA also suggests, however, that we should be "especially" loath to allow this petition for review because the "NRDC chose not to participate *at all* in *any* of the administrative proceedings on vinyl chloride." Brief for EPA at 12 (emphasis in original). This merely restates the proposition that the NRDC has failed to exhaust its administrative remedies. None of the cases relied upon by the EPA suggests that exceptions to exhaustion have any less applicability in the case of a wholly absent party than in other exhaustion contexts. See *Environmental Defense Fund v. EPA*, 598 F.2d 62, 91 (D.C. Cir. 1978); *Nader v. Nuclear Regulatory Comm'n*, 513 F.2d 1045, 1054-55 (D.C. Cir. 1975). This is not a case in which the statute conditions a party's ability to obtain judicial review upon its participation in the rulemaking proceedings. See *Gage v. Atomic Energy Comm'n*, 479 F.2d 1214, 1218 (D.C. Cir. 1973). The jurisdictional provision of the Clean Air Act imposes no such prerequisite, and, in fact, employs rather permissive language which does not specify who may bring a petition for review. See 42 U.S.C. § 7607(b) (1982) ("A petition for review of action of the Administrator in promulgating . . . any emission standard or requirement under section 7412 . . . may be filed . . . in the United States Court of Appeals for the District of Columbia."). The NRDC's total abstention from participation in the rulemaking proceedings does not make the exhaustion requirement more compelling or negate the valid exception to that requirement asserted by the NRDC.

III.

The NRDC's challenge to the EPA's withdrawal of the 1977 amendments is simple: because the statute adopts an exclusive focus on considerations of health, the Administrator must set a zero level of emissions when he cannot determine that there is a level below which no harm will occur.

We must determine whether the EPA's actions are arbitrary, capricious, an abuse of discretion, or otherwise not

in accordance with law. 42 U.S.C. § 7607(d)(9)(A) (1982). Review begins with the question of whether "Congress has directly spoken to the precise question at issue" and has expressed a clear intent as to its resolution. *Chevron, U. S. A., Inc. v. NRDC*, 467 U.S. 837, 842-43 (1984). If so, "that intention is the law and must be given effect." *Id.* at 843 n.9. "[I]f the statute is silent or ambiguous with respect to the specific issue," we must accept an agency interpretation if it is reasonable in light of the language, legislative history, and underlying policies of the statute. *Id.* at 843; *NRDC v. Thomas*, 805 F.2d 410, 420 (D.C. Cir. 1986). We find no support in the text or legislative history for the proposition that Congress intended to require a complete prohibition of emissions whenever the EPA cannot determine a threshold level for a hazardous pollutant. Instead, there is strong evidence that Congress considered such a requirement and rejected it.

Section 112 commands the Administrator to set an "emission standard" for a particular "hazardous air pollutant" which in his "judgment" will provide an "ample margin of safety." Congress' use of the term "ample margin of safety" is inconsistent with the NRDC's position that the Administrator has no discretion in the face of uncertainty. The statute nowhere defines "ample margin of safety." The Senate Report, however, in discussing a similar requirement in the context of setting ambient air standards under section 109 of the Act, explained the purpose of the "margin of safety" standard as one of affording "a *reasonable* degree of protection . . . against hazards which research has not yet identified." S. Rep. No. 1196, 91st Cong., 2d Sess. 10 (1970) (emphasis added). This view comports with the historical use of the term in engineering as "a safety factor . . . meant to compensate for uncertainties and variabilities." See Hall, *The Control of Toxic Pollutants Under the Federal Water Pollution Control Act Amendments of 1972*, 63 Iowa L. Rev. 609, 629 (1978). Fur-

thermore, in a discussion of the use of identical language in the Federal Water Pollution Control Act, this court has recognized that, in discharging the responsibility to assure "an ample margin of safety," the Administrator faces "a difficult task, indeed, a veritable paradox—calling as it does for knowledge of that which is unknown—[but] . . . the term 'margin of safety' is Congress's directive that means be found to carry out the task and to reconcile the paradox." *Environmental Defense Fund v. EPA*, 598 F.2d 62, 81 (D.C. Cir. 1978). And while Congress used the modifier "ample" to exhort the Administrator not to allow "the public [or] the environment . . . to be exposed to anything resembling the maximum risk" and, therefore, to set a margin "greater than 'normal' or 'adequate,'" Congress still left the EPA "great latitude in meeting its responsibility." *See id.*

Congress' use of the word "safety," moreover, is significant evidence that it did not intend to require the Administrator to prohibit all emissions of non-threshold pollutants. As the Supreme Court has recently held, "safe" does not mean "risk-free." *Industrial Union Dep't, AFL-CIO v. American Petroleum Inst.*, 448 U.S. 607, 642 (1980). Instead, something is "unsafe" only when it threatens humans with "a significant risk of harm." *Id.*

Thus, the terms of section 112 provide little support for the NRDC's position. The uncertainty about the effects of a particular carcinogenic pollutant invokes the Administrator's discretion under section 112. In contrast, the NRDC's position would eliminate any discretion and would render the standard "ample margin of safety" meaningless as applied to carcinogenic pollutants.¹ Whenever any scien-

¹ With the exception of mercury, every pollutant the Administrator has listed or intends to list under § 112 is a non-threshold carcinogen. *See* 40 C.F.R. § 61.01(a) (1986) (listing asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, radionuclides, and vinyl chloride);

tific uncertainty existed about the ill effects of a non-zero level of hazardous air pollutants—and we think it unlikely that science will ever yield *absolute* certainty of safety in an area so complicated and rife with problems of measurement, modeling, long latency, and the like—the Administrator would have no discretion but would be required to prohibit all emissions. Had Congress intended that result, it could very easily have said so by writing a statute that states that no level of emissions shall be allowed as to which there is any uncertainty. But Congress chose instead to deal with the pervasive nature of scientific uncertainty and the inherent limitations of scientific knowledge by vesting in the Administrator the discretion to deal with uncertainty in each case.

The NRDC also argues that the legislative history supports its position. To the contrary, that history strongly suggests that Congress did not require the Administrator to prohibit emissions of all non-threshold pollutants; Congress considered and rejected the option of requiring the Administrator to prohibit all emissions.

The Senate bill would have required the Administrator to prohibit any emission of a hazardous pollutant, threshold or non-threshold, unless he found, after a hearing, that a preponderance of the evidence demonstrated “that such agent is not hazardous to the health of persons” or that “departure from . . . prohibition for [a] stationary source will not be hazardous to the health of persons.” S. 4358, 91st Cong., 2d Sess. § 6(b), 116 Cong.

50 Fed. Reg. 24,317 (June 10, 1985) (chromium); 50 Fed. Reg. 32,621 (Aug. 13, 1985) (carbon tetrachloride); 50 Fed. Reg. 39,626 (Sept. 27, 1985) (chloroform); 50 Fed. Reg. 40,286 (Oct. 2, 1985) (ethylene oxide); 50 Fed. Reg. 41,466 (Oct. 10, 1985) (1,3-butadiene); 50 Fed. Reg. 41,994 (Oct. 16, 1985) (ethylene dichloride); 50 Fed. Reg. 42,000 (Oct. 16, 1985) (cadmium); 50 Fed. Reg. 52,422 (Dec. 23, 1985) (trichloroethylene); 50 Fed. Reg. 52,880 (Dec. 26, 1985) (perchloroethylene).

Rec. 32,375 (1970). The definition of hazardous agent included any pollutant "whose presence . . . in trace concentrations in the ambient air . . . causes or will cause, or contribute to, an increase in serious irreversible or incapacitating reversible damage to health." *Id.* Presumably, this provision would have required the complete prohibition of emissions of carcinogenic agents because the Administrator cannot demonstrate by "a preponderance of the evidence" that trace concentrations of these agents will not cause harm. The final version of section 112, however, omits any reference to a prohibition of emissions and directs the Administrator to set an emissions standard "at the level which in his judgment provides an ample margin of safety to protect the public health." Thus, Congress rejected a provision which would have required the Administrator to prohibit certain emissions and adopted a provision which places that decision within the Administrator's discretion.

The only arguable support for the NRDC's position is a passage in the summary of the provisions of the conference agreement attached to Senator Muskie's statement during the post-conference debate on the Clean Air Act:

The standards must be set to provide an ample margin of safety to protect the public health. This could mean, effectively, that a plant could be required to close because of the absence of control techniques. It could include emission standards which allow for no measurable emissions.

Senate Consideration of the Report of the Conference Committee, Exhibit 1 to Statement of Sen. Muskie, Congressional Research Service of the Library of Congress, 93d Cong., 2d Sess., 1 *A Legislative History of the Clean Air Amendments of 1970* at 133 (Comm. Print 1974). This statement does not, as the NRDC supposes, mean that the Administrator must set a zero-emission level for all non-threshold pollutants. On its face, the statement means only that, in certain conditions, there may be plant

closings and sometimes zero emissions may be required. Senator Muskie did not say this would invariably be so when scientific uncertainty existed. His statement confirms that the Administrator is *permitted* to set a zero-emission level for some pollutants; it does not hold that the Administrator is invariably *required* to do so whenever there is some scientific uncertainty.

It is also significant that this is the only reference after the Conference Committee compromise to the possibility of plant closure as a result of the Administrator's actions under section 112. To accept the petitioner's contention that section 112 *requires* the Administrator to prohibit all emissions of non-threshold pollutants, we would have to conclude that, without even discussing the matter, Congress mandated massive economic and social dislocations by shutting down entire industries. That is not a reasonable way to read the legislative history. The EPA has determined that a zero-emissions standard for non-threshold pollutants would result in the elimination of such activities as "the generation of electricity from either coal-burning or nuclear energy; the manufacturing of steel; the mining, smelting, or refining of virtually any mineral (*e.g.*, copper, iron, lead, zinc, and limestone); the manufacture of synthetic organic chemicals; and the refining, storage, or dispensing of any petroleum product." National Emission Standards for Hazardous Air Pollutants; Policy and Procedures for Identifying, Assessing and Regulating Airborne Substances Posing a Risk of Cancer, 44 Fed. Reg. 58,642, 58,660 (1979). It is simply not possible that Congress intended such havoc in the American economy and not a single representative or senator mentioned the fact. *Cf. Industrial Union Dep't*, 448 U.S. at 645 ("In the absence of a clear mandate in the Act, it is unreasonable to assume that Congress intended to give the Secretary [this] unprecedented power over American industry."). Thus, we find no sup-

port for the NRDC's extreme position in the language or legislative history of the Act.

IV.

We turn now to the question whether the Administrator's chosen method for setting emission levels above zero is consistent with congressional intent. The Administrator's position is that he may set an emission level for non-threshold pollutants at the lowest level achievable by best available control technology when that level is anywhere below the level of demonstrated harm and the cost of setting a lower level is grossly disproportionate to the benefits of removing the remaining risk. The NRDC argues that this standard is arbitrary and capricious because the EPA is never permitted to consider cost and technological feasibility under section 112 but instead is limited to consideration of health-based factors. Thus, before addressing the Administrator's method of using cost and technological feasibility in this case, we must determine whether he may consider cost and technological feasibility at all. See *Chemical Mfrs. Ass'n v. NRDC*, 470 U.S. 116, 134 (1985) (relevant issue is whether there is a clear congressional intent "to forbid" the challenged agency action).

A.

On its face, section 112 does not indicate that Congress intended to preclude consideration of any factor. Though the phrase "to protect the public health" evinces an intent to make health the primary consideration, there is no indication of the factors the Administrator may or may not consider in determining, in his "judgment," what level of emissions will provide "an ample margin of safety." Instead, the language used, and the absence of any specific limitation, gives the clear impression that the Administrator has some discretion in determining what, if any, additional factors he will consider in setting an emission standard.

B.

The petitioner argues that the legislative history makes clear Congress' intent to foreclose reliance on non-health-based considerations in setting standards under section 112. We find, however, that the legislative history can be characterized only as ambiguous.

The NRDC directs us to the hazardous air pollutants provision of the House bill, which states that "[i]f . . . emissions [from any class of new stationary sources] are extremely hazardous to health, no new source of such emissions shall be constructed or operated, except where (and subject to such conditions as he deems necessary and appropriate) the [Administrator] makes a specific exemption with respect to such construction or operation." See H.R. 17255, 91st Cong., 2d Sess. § 5(a), 116 Cong. Rec. 19,226 (1970). Thus, as to extremely hazardous emissions, the House bill granted the Administrator a rather open-ended power to exempt a source from the regulation imposed, a power that the petitioner presumes, probably correctly, to have allowed for exemptions on the basis of non-health considerations.² By contrast, the

² The bill prohibited new sources if and because they emitted extremely hazardous pollutants. Allowing exemptions to such prohibitions without specifying the permissible bases for exemption seems to invite consideration of non-health factors, for it would be strange indeed to construct a scheme under which both a prohibition and an exemption from prohibition were available on the basis of the same criterion. To be sure, the Senate bill did set up a system under which the agency was to propose a prohibition of hazardous pollutants, and could refuse to promulgate that prohibition only for health-based reasons, see *infra* pp. 21-22, but this does not make any more plausible the notion that the House bill set up a prohibition and exemption on the sole basis of health. The Senate provision did not set up a system of prohibitions and exemptions, but rather a procedural system to guide the agency. See S. 4358, 91st Cong., 2d Sess. § 6(b), 116 Cong. Rec. 32,375 (1970). The agency was to publish a list of hazardous pollutants on the basis of "available material evidence." This

petitioner notes, the Senate bill had a tight focus on health, prohibiting emissions "hazardous to the health of persons" and allowing only health-based exceptions to that prohibition. See S. 4358, 91st Cong., 2d Sess. § 6(b), 116 Cong. Rec. 32,375 (1970). Because the final version that emerged from conference more closely resembled the Senate than the House bill, and because no express provision for any "specific exemption" survived, the NRDC argues that any feasibility considerations must have been deliberately eliminated. We find this reading of the legislative history strained.

While the original Senate bill is closer than the House bill to the final legislation, neither the House nor the Senate version closely resembles in the aspect relevant here the compromise that emerged from conference. H.R. 17255 dealt only with new stationary sources and, with respect to those, only half of the regulatory scheme dealt with emissions considered "extremely hazardous to health." See H.R. 17255, 91st Cong., 2d Sess. § 5(a), 116 Cong. Rec. 19,225-26 (1970). The bill also dealt with new sources, the emissions of which could "contribute substantially to endangerment of the public health or welfare" but which were not "extremely hazardous to health," providing for control of such emissions "to the fullest extent compatible with the available technology and economic feasibility." *Id.* In effect, therefore, the House bill amounted to a comprehensive measure deal-

list would amount to a proposed prohibition of emissions of the substances on the list. The agency was then to provide notice and a public hearing for each agent or combination of agents included on the list and could refuse to promulgate the prohibition only if a preponderance of the evidence at the hearing refuted the initial basis for the substance's inclusion. Under the House bill, the exemption applied to something still considered "extremely hazardous." We do not see how such an exemption could rest on exclusively health-based considerations.

ing with new sources, but it only incidentally treated the problem of "extremely hazardous" agents.

Unlike the House bill, the Senate version dealt only with hazardous air pollutants and did so with respect to all stationary sources. The bill proposed a relatively narrow definition of hazardous agents, restricting this category to pollutants "whose presence, chronically or intermittently, in trace concentrations in the ambient air, either alone or in combination with other agents, causes or will cause, or contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible damage to health." S. 4358, 91st Cong., 2d Sess. § 6(b), 116 Cong. Rec. 32,375 (1970). Under the scheme set up by the bill, the Administrator was to publish a list of hazardous agents, and follow it by a "proposed prohibition of emissions of each such agent or combination of agents from any stationary source." *Id.* The bill then provided for a hearing, after which the Administrator was required to promulgate the prohibition unless a preponderance of evidence demonstrated either "that such agent is not hazardous to the health of persons" or "that departure from prohibition for [a] stationary source will not be hazardous to the health of persons." *Id.* If the Administrator found either such condition to exist, he would then implement an emission standard in lieu of a prohibition. *Id.*

Given these starting points, the inference the petitioner draws from the changes made at conference appears tenuous at best. The final version defines a "hazardous air pollutant" as

an air pollutant to which no ambient air quality standard is applicable and which in the judgment of the Administrator may cause, or contribute to, air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.

Clean Air Amendments of 1970, Pub. L. No. 91-604, § 4(a), 84 Stat. 1676, 1685.³ The statute instructs the Administrator to publish a list of such pollutants, to conduct hearings, and, unless the hearings show a particular agent not to be a "hazardous air pollutant," to promulgate emissions standards. *Id.* The Administrator must "establish any such standard at the level which in his judgment provides an ample margin of safety to protect the public health from such hazardous air pollutant." *Id.* The petitioner has correctly observed that the law enacted has a closer structural resemblance to the Senate bill, but this offers little, if any, support to the petitioner's claim because the Senate bill and the final legislation both were measures intended to address the problem of hazardous air pollutants from all sources. That they would resemble each other more than a House bill meant to deal with the problem of all pollution from new sources seems a natural outcome for that reason alone. The resemblance thus sheds light on the intent to adopt particular aspects of the Senate version in the final bill.

The legislative history is simply ambiguous with respect to the question of whether the Administrator may permissibly consider cost and technological feasibility under section 112. In the course of the compromise, the House lost a provision which would have permitted consideration of non-health based factors and the Senate lost a provision which would have limited the Administrator to consideration of health-based factors. The resulting standard neither permits nor prohibits consideration of any factor. Thus, we cannot find a clear congressional intent in the language, structure, or legislative history

³ Congress in the Clean Air Act Amendments of 1977 made a minor alteration in the definition of a "hazardous air pollutant," replacing "may cause, or contribute to" with "causes, or contributes to." Pub. L. No. 95-95, § 401(a), 91 Stat. 685, 791 (1977). This change does not affect the outcome of this case.

of the Act to preclude consideration of cost and technological feasibility under section 112.

C.

The petitioner argues next that a finding that section 112 does not preclude consideration of cost and technological feasibility would render the Clean Air Act structurally incoherent and would be inconsistent with the Supreme Court's interpretation of section 110 of the Act, see *Union Electric Co. v. EPA*, 427 U.S. 246 (1976), and this court's interpretation of section 109 of the Act, see *Lead Indus. Ass'n v. EPA*, 647 F.2d 1130 (D.C. Cir.), cert. denied, 449 U.S. 1042 (1980), as precluding consideration of these factors. We do not believe that our decision here is inconsistent with either the holding or the statutory interpretation in either case.

First, as discussed below, the court in each case rejected an argument that the EPA must consider cost and technological feasibility as factors equal in importance to health. We reject the same argument here. See *infra* pp. 35-42. In this case, however, we must also address the question of whether the Administrator may consider these factors if necessary to further *protect* the public health. This issue was not addressed in either *Union Electric* or *Lead Industries*.

Second, these decisions do not provide precedential support for the petitioner's position that, as a matter of statutory interpretation, cost and technological feasibility may never be considered under the Clean Air Act unless Congress expressly so provides. In each case there was some indication in the language, structure, or legislative history of the specific provision at issue that Congress intended to preclude consideration of cost and technological feasibility. As discussed above, we find no such indication with respect to section 112.⁴

⁴ The NRDC also argues that the structure of § 112 itself supports its contention; Congress expressed a clear intent to

In *Union Electric*, the Court addressed the issue of whether the Administrator could reject a state implementation plan submitted for approval under section 110 of the Clean Air Act on the ground that the plan was

preclude consideration of cost and technological feasibility in setting an emission standard under § 112(b)(1) by specifically directing the EPA to consider these factors in three other subsections of § 112. These provisions, the NRDC contends, would be superfluous if the EPA could consider cost and technological feasibility in setting an emission standard under § 112(b)(1).

The NRDC's argument fails because the cited provisions continue to have significance if the Administrator is permitted to consider cost and technological feasibility under § 112(b)(1). Section 112(c)(1)(B)(ii) authorizes the EPA to grant an existing source a waiver from an emission standard for up to two years if "necessary for the installation of controls." 42 U.S.C. § 7412(c)(1)(B)(ii) (1982). This provision could be utilized to grant a waiver to a source that is not able to comply with a standard which was based upon cost and technological feasibility because it does not have the appropriate control technology.

Section 112(c)(2) allows the President to exempt any stationary source from emission standards "if he finds that the technology to implement such standards is not available and the operation of such source is required for reasons of national security." 42 U.S.C. § 7412(c)(2) (1982). This provision would be necessary if the Administrator considered cost and technological feasibility in setting an emission level for non-threshold pollutants and then set the level below that achievable by the best available control technology because the balance favored the elimination of the risk. This provision would also be necessary when the known threshold level for a hazardous pollutant is below the level that current technology can attain.

Finally, § 112(e) authorizes the EPA to set a "design, equipment, work practice, or operational standard" if in the Administrator's judgment "it is not feasible to prescribe or enforce an emission standard for control of a hazardous air pollutant." 42 U.S.C. § 7412(e)(1) (1982). For the purpose of this subsection, the term "feasible," however, relates only to the ability to *measure* emissions. See *id.* § 7412(e)(2). Thus, this subsection has no relevance to the Administrator's

not economically or technologically feasible. The Court noted that section 110 sets out eight criteria that a state plan must meet and further provides that if these criteria are met, and if the state adopted the plan after notice and a hearing, the Administrator "shall" approve the plan. 427 U.S. at 257. The Court then held that "[t]he mandatory 'shall' makes it quite clear that the Administrator is not to be concerned with factors other than those specified, . . . and none of the eight factors appears to permit consideration of technological or economic infeasibility." *Id.* (citation omitted). In a footnote to this statement, the Court found its position bolstered by a "[c]omparison of the eight criteria of § 110 (a) (2)" with other provisions of the Act which expressly permit consideration of cost and technological feasibility. *Id.* at 257 n.5. The Court concluded that "[w]here Congress intended the Administrator to be concerned about economic and technological infeasibility, it expressly so provided." *Id.* We simply do not, as

ability to consider cost and technological feasibility in setting an emission standard.

We also reject the contention that because Congress explicitly directed the Administrator to consider cost and technology in these provisions it intended to preclude the Administrator from considering these factors under § 112(b) (1). Petitioner in effect asserts that Congress knew how to designate such factors and did so expressly where it intended their application. We do not agree. That Congress explicitly provided for certain specific considerations in these limited and detailed subsections does not seem to us a persuasive reason to conclude that failure to specify such considerations when employing a generalized standard in § 112(b) (1) forecloses reliance on those factors in fleshing out that standard. If elsewhere in § 112 Congress had exhorted the Administrator "to provide an ample margin of safety to protect the public health," or had stated some similarly broad delegation, and then had specifically noted that he could or should consider cost or technological feasibility in making his determination, only then would the failure to so specify in § 112(b) (1) arguably foreclose consideration of such factors.

the NRDC does, read these statements as announcing the broad rule that an agency may never consider cost and technological feasibility, under any delegation of authority, and for any purpose, unless Congress specifically provides that the agency is authorized to consider these factors. At most, we believe that these statements stand for the proposition that when Congress has specifically directed an agency to consider certain factors, the agency may not consider unspecified factors. Because Congress chose not to limit specifically the factors the Administrator may consider in section 112, this discussion in *Union Electric* is not in point here. The factors that the Administrator may consider under section 112 could conceivably include all of the specific factors listed in other parts of the Act if necessary "to protect the public health."

A similar analysis distinguishes this court's reasoning in *Lead Industries*. In *Lead Industries*, we held that the Administrator is not required to consider cost and technology under the mandate in section 109 of the Clean Air Act to promulgate primary air quality standards which "allow[] an adequate margin of safety . . . to protect the public health." 42 U.S.C. § 7409(b)(1) (1982).⁵ The NRDC argues that the decision in *Lead Industries*, which involved the more permissive language "adequate," rather than "ample," "margin of safety," compels the

⁵ The statutory scheme involved in *Lead Industries* regulates air pollutants the "emissions of which, in [the Administrator's] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare . . . [and] the presence of which in the ambient air results from numerous or diverse mobile or stationary sources." 42 U.S.C. § 7408(a)(1) (1982). The Administrator must then publish "air quality criteria" for the pollutants thus listed, *id.* § 7408(a)(2), and prescribe primary and secondary ambient air standards based on these criteria. *See id.* § 7409. Finally, states must adopt state implementation plans to meet these ambient air standards and must submit their plans to the EPA for approval. *See id.* § 7410.

conclusion that section 112 precludes consideration of economic and technological feasibility. We think not.

The *Lead Industries* court did note that the statute on its face does not allow consideration of technological or economic feasibility, but the court based its decision that section 109 does not allow consideration of these factors in part on structural aspects of the ambient air pollution provisions that are not present here. First, besides "allowing an adequate margin of safety," ambient air standards set under section 109(b) must be based on "air quality criteria," which section 108 defines as comprising several elements, all related to health. See 42 U.S.C. § 7408(a)(2)(A), (B), & (C) (1982). The court reasoned that the exclusion of economic and technological feasibility considerations from air quality criteria also foreclosed reliance on such factors in setting the ambient air quality standards based on those criteria. 647 F.2d at 1149 n.37. The court also relied on the fact that state implementation plans, the means of enforcement of ambient air standards, could not take into account economic and technological feasibility if such consideration interfered with the timely attainment of ambient air standards, and that the Administrator could not consider such feasibility factors in deciding whether to approve the state plans. *Id.*; see 42 U.S.C. § 7410 (1982). This provided further grounds for the court to believe that Congress simply did not intend the economics of pollution control to be considered in the scheme of ambient air regulations. See 647 F.2d at 1149 n.37.

In *Lead Industries*, moreover, the relevant Senate Report stated flatly that "existing sources of pollutants either should meet the standard of the law or be closed down." 647 F.2d at 1149. This is a far clearer statement than anything in the present case that Congress considered the alternatives and chose to close down sources or even industries rather than to allow risks to health.

The substantive standard imposed under the hazardous air pollutants provisions of section 112, by contrast with sections 109 and 110, is not based on criteria that enumerate specific factors to consider and pointedly exclude feasibility. Section 112(b)(1)'s command "to provide an ample margin of safety to protect the public health" is self-contained, and the absence of enumerated criteria may well evince a congressional intent for the Administrator to supply reasonable ones. Further, section 112, in marked contrast to the regime of ambient air standards, operates through nationally enforced standards; the state plans are permissive and may not interfere with national enforcement of any hazardous pollutant standard. 42 U.S.C. § 7412(d) (1982). No detailed provisions preclusive of technological and economic considerations govern the state plans allowed under section 112; indeed, the Administrator must delegate enforcement and implementation authority to the state (subject to his continuing ability to enforce national standards) if he finds the state plan "adequate." *Id.* Thus, nothing in the scheme of state implementation plans under section 112 demonstrates disfavor for feasibility considerations, and this further distinguishes section 112 from the *Lead Industries* court's interpretation of section 109.

Thus, in *Lead Industries*, the court found clear evidence that Congress intended to limit the factors the Administrator is permitted to consider in setting a "margin of safety" under section 109. The "margin of safety" standard in section 112 is not so adorned. For that reason, *Lead Industries* does not control this case.⁶

⁶ The petitioner also asserts that our decision here is inconsistent with the Supreme Court's decision in *American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490 (1981), and this court's decision in *Hercules, Inc. v. EPA*, 598 F.2d 91 (D.C. Cir. 1978). We do not agree. The relevance of the Court's decision in *American Textile* to this case is not clear. The issue in *American Textile* was whether the Occupational Safety and Health Administration ("OSHA") was required

D.

On the other side of this controversy, the EPA argues that the 1977 amendments of the Clean Air Act, in light of Congress' awareness of the 1976 vinyl chloride

to employ cost-benefit analysis, which was defined as a determination of "whether the reduction in risk of material health impairment is significant in light of the costs of attaining that reduction," 452 U.S. at 506, in setting occupational health standards under a statute which directed OSHA to consider feasibility. OSHA argued that it was not required to employ cost-benefit analysis, but instead was only required "to promulgate standards that eliminate or reduce such risks to the extent such protection is technologically and economically feasible." *Id.* at 507. The Court found that "[w]hen Congress has intended that an agency engage in cost-benefit analysis, it has clearly indicated such intent on the face of the statute," *id.* at 510, and has used "specific language" to express that intent. *Id.* at 510-11. The Court held, therefore, that "the word 'feasible' cannot be construed to articulate such congressional intent." *Id.* at 511-12.

The holding in *American Textile* would seem to be limited to the finding that when Congress directs an agency to consider feasibility, the agency is not required to employ cost-benefit analysis. That issue is not before us here. The Administrator has not argued that he intends to weigh the marginal gain against the marginal cost of each increment of further regulation and then to set the level of regulation at the point at which the latter exceeds the former. Instead, he intends to set the level at the lowest level that is feasible. Thus the issue in this case involves an authority that OSHA concededly had in *American Textile* and, therefore, the case does not affect our decision here.

The petitioner argues that this court's decision in *Hercules* supports its claim that the "ample margin of safety" language prohibits consideration of cost and technological feasibility. *Hercules* involved § 307(a)(4) of the Federal Water Pollution Control Act, which directs the EPA to set standards for toxic water pollutants which provide "an ample margin of safety." See 33 U.S.C. § 1317(a)(4) (1982). In relevant part, the decision dealt with an industry petitioner's claim that certain regulations promulgated by the EPA under § 307(a) failed adequately to take feasibility into account. The EPA re-

regulations, amounts to a ratification of the use of cost and technological feasibility considerations in setting

sponded that § 307(a) does not require consideration of any such factor.

The court agreed with the EPA, principally on the ground that § 307(a)(2) enumerated six specific factors to take into account in setting standards for toxic water pollutants, and none involved economic or technological criteria. 598 F.2d at 111. Reinforcing this interpretation was the fact that "[s]ection 307(a)(4) directs EPA to set standards providing 'an ample margin of safety' without any mention of feasibility criteria." *Id.* This, however, does not support the NRDC's position in this case, for *Hercules* merely stands for the proposition that the unadorned appearance of "ample margin of safety" does not *require* economic and technological considerations; the case says nothing about what such language may *permit*.

Nor do we find persuasive the dicta from *Hercules* that the NRDC cites on the subject of § 112 of the Clean Air Act. The *Hercules* court noted similarities between the Federal Water Pollution Control Act Amendments and the Clean Air Amendments of 1970. 598 F.2d at 112. The court then discerned a distinction applicable to both statutes positing "health-based" regulation for toxic water and hazardous air pollutants and "technology-based" regulation for other water and air pollutants. *See id.* The court also noted that "Congress enacted section 112 . . . without provision for considerations of feasibility." *Id.*

First, an interpretation of this dicta as providing that an agency is authorized to consider cost and technology only under "technology-based" statutes would render the court's decision inconsistent with our mandate as expressed in *Chevron*. Our role at this stage is only to determine whether Congress has expressed a clear intent to preclude consideration of cost and technological feasibility under § 112. If we do not discern such an intent, we cannot simply impose our views as to whether this is a "safety-based" or "technology-based" statute and then limit the Administrator's discretion solely on the basis of that view. *See Chevron*, 467 U.S. at 842-45.

Nor do we believe that the *Hercules* court's casual observation that § 112 makes no provision for feasibility changes the analysis. There is also no indication in § 112 that Congress intended to preclude consideration of feasibility.

standards under section 112. We think this overstates the significance of the legislative history leading up to the Clean Air Act Amendments of 1977. To understand why this is the case, and to appreciate what significance, if any, the 1977 amendments have, we turn to an examination of the history of those amendments.

In 1976, both houses of Congress passed bills purporting to amend the Clean Air Act. The first section of the House bill sought to spur the EPA to take action with respect to specified unregulated pollutants, including vinyl chloride. Within one year of the enactment of the amendments, unless the Administrator found after notice and a hearing that the enumerated "substance [would] not cause or contribute to air pollution which [could] reasonably be anticipated to endanger public health," he was to include such substance on the list of pollutants subject to regulation under an ambient air standard pursuant to sections 108 through 110 or under the hazardous air pollutant provisions of section 112, or to include sources of such pollutants on the list of stationary sources governed by section 111's new source performance standards, or to implement some combination of such regulation. H.R. 10498, 94th Cong., 2d Sess. § 101(a), 122 Cong. Rec. 29,219 (1976).

In addressing this section of the bill, the Report of the Committee on Interstate and Foreign Commerce discussed the vinyl chloride problem in some detail, emphasizing the dangerous nature of the substance. H.R. Rep. No. 1175, 94th Cong., 2d Sess. 23 (1976). During the development of the bill, the Report noted, the EPA had "proposed emission standards for vinyl chlorides under section 112 of the Act for major sources in the plastics industry," but the Committee retained vinyl chlorides in the proposed legislation to underscore "the Committee's concern that the standards be promulgated without delay and that standards be promulgated for any other significant sources of vinyl chlorides which may

exist." *Id.* at 23-24. The Committee also noted, however, that it "did not intend to specify the degree of emission reduction which should be required," but that "the Administrator should apply the appropriate means and extent of regulation under the existing statutory criteria." *Id.* at 26. The House passed the bill, leaving section 101 intact.

The Senate bill contained nothing similar. The Conference Committee, however, decided to adopt the House provision regarding unregulated pollutants in relevant part. See H.R. Rep. No. 1742, 94th Cong., 2d Sess. 25-26 (1976). The threat of a total filibuster, however, prevented the Senate from voting on the recommendations of the conferees, and the bill died.

In 1977, both houses reintroduced legislation to amend the Clean Air Act. In the interim between the abandonment of the 1976 amendments and the introduction of the new legislation, the EPA promulgated emission standards for vinyl chloride under section 112 of the Act. See 41 Fed. Reg. 46,560 (1976). In so doing, the EPA clearly articulated that the regulations adopted reduced vinyl chloride emissions "to the level attainable with best available technology" and that, while "section 112 does not explicitly provide for consideration of costs," the agency believed it could take them into account for the limited purpose of "assur[ing] that the costs of control technology are not grossly disproportionate to the amount of emission reduction achieved." *Id.* at 46,560, 46,562. The 1977 House bill contained a provision "nearly identical" to section 101 of the 1976 House bill, differing primarily in its inclusion of radioactive materials and deletion of vinyl chloride from the unregulated pollutants specified. H.R. Rep. No. 294, 95th Cong., 1st Sess. 3 (1977). The Committee explained the deletion of vinyl chloride on the ground that "[d]uring the past year the Administrator [had] promulgated final regulations for the control of vinyl chloride emissions." *Id.*

The bill passed the House with the unregulated pollutants provision intact. Once again, the Senate bill had no such provision, and, at conference, the House's provision was adopted in relevant part. See H.R. Rep. No. 564, 95th Cong., 1st Sess. 141-42 (1977). The conference recommendations regarding unregulated pollutants passed both houses intact, and President Carter signed the Clean Air Act Amendments into law on August 7, 1977. See Pub. L. No. 95-95, 91 Stat. 685 (1977).

The 1977 legislation comprehensively amended the Clean Air Act, and, in fact, amended the very section that is the subject of this lawsuit. Indeed, that amendment added a further subsection employing substantially the language that the EPA had construed in the vinyl chloride regulations to allow consideration of economic and technological feasibility. The relevant amendment to section 112 empowered the Administrator under certain circumstances to forgo use of an emission standard and instead to "promulgate a design, equipment, work practice, or operational standard, or combination thereof, which in his judgment is adequate to protect the public health . . . with an ample margin of safety." 42 U.S.C. § 7412(e)(1) (1982) (emphasis added); see also Pub. L. No. 95-95, 91 Stat. 685, 703 (1977).⁷ Thus, at the time of the 1977 amendments, Congress expressly considered the kind of regulation the EPA should apply to hazardous air pollutants, once identified, and reenacted

⁷ The Administrator could employ this alternative kind of regulation when an emission standard proved infeasible because "(A) a hazardous pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or . . . any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State, or local law, or (B) the application of measurement methodology to a particular class of sources is not practicable due to technological or economic limitations." 42 U.S.C. § 7412(e)(2) (1982); Pub. L. No. 95-95, § 110, 91 Stat. 685, 703 (1977).

the standard construed by the EPA in the vinyl chloride regulations.

The House knew of the 1976 regulations,⁸ and the failure to clarify the "ample margin of safety" requirement when adopting that language anew in the amendment adding section 112(e) may, therefore, indicate that the EPA has correctly discerned legislative intent. See *United States v. Rutherford*, 442 U.S. 544, 554 n.10 (1979). Indeed, if the House's and the House Committee's awareness of what was taking place could confidently be attributed to the entire Congress, the history recited of reactions in 1976 and 1977 would make a considerable case for ratification. But we cannot be certain that Congress was aware of the content of the vinyl chloride regulations,⁹ and, therefore, we give the failure to repudiate the EPA's substantive interpretation of section 112 in those regulations only "modest weight," see *National Wildlife Fed'n v. Gorsuch*, 693 F.2d 156, 167 & n.33

⁸ The NRDC argues that because the EPA had promulgated its 1977 Notice of Proposed Rulemaking to amend the vinyl chloride standard, it becomes unclear whether the EPA's cost and technological feasibility interpretation was well established at the time of the 1977 amendments. We think it was. Although embracing a zero emission goal, the notice explicitly disagreed with criticism that the 1976 regulations placed unwarranted emphasis on technological, rather than health-based goals. 42 Fed. Reg. 28,154 (1977). Of more importance, the proposed rules mandated only "more efficient use of existing control technology at existing plants and more effective controls at new plants." *Id.* The proposal encouraged new technology but refused to ban vinyl chloride because of the drastic implications such a measure would hold for the industry. *Id.* Thus, while more stringent, the proposed regulations did not by any means abandon the EPA's earlier position.

⁹ The EPA also argues that asbestos regulations based on feasibility considerations had been promulgated pursuant to § 112 prior to the 1977 amendments. We give this no weight because the EPA has given us no indication that Congress had any awareness of the existence, let alone the content, of those regulations.

(D.C. Cir. 1982), and we certainly cannot construe Congress' failure to act in these circumstances as amounting to ratification of the EPA's construction.¹⁰ Congress, in confronting the problem of unregulated pollutants, sought only to provoke some action by the EPA, and in no way aimed to specify the appropriate degree of emission control. That the House knew of the existence of the 1976 standard for vinyl chloride and decided to remove it from the unregulated pollutants list does not, therefore, tell us whether the House examined and became aware of the content of those regulations or the theory or level of the controls imposed. The history of the 1977 amendments may give a scintilla of evidence in support of the agency position here, but it is far short of legislative ratification of the EPA's construction.

VI.

Since we cannot discern clear congressional intent to preclude consideration of cost and technological feasibility in setting emission standards under section 112, we

¹⁰ A court must only sparingly accept arguments based on acquiescence or ratification, for "the Framers of our Constitution deliberately made the passage of legislation difficult—more difficult, for instance, than in parliamentary democracies—[and] Congress simply cannot be obliged affirmatively to correct subsequent administrative interpretations inconsistent with original legislative intent; that is the responsibility of the courts." *Coalition to Preserve the Integrity of Am. Trademarks v. United States*, 790 F.2d 903, 917 (D.C. Cir. 1986). Congressional inaction on a particular point may "betoken[] unawareness, preoccupation, or paralysis," rather than tacit assent. See *Zuber v. Allen*, 396 U.S. 168, 185-86 n.21 (1969). Of course, in the case before us there was more than mere congressional silence; there was affirmative evidence that members of the House knew what the EPA was doing and failed to object and that the House Committee employed language that showed a desire to achieve a reduction, but not necessarily the total elimination, of emissions. This is something more than mere failure to enact corrective legislation.

necessarily find that the Administrator may consider these factors. We must next determine whether the Administrator's use of these factors in this case is "based on a permissible construction of the statute." *Chevron*, 467 U.S. at 843. We must uphold the Administrator's construction if it represents "a reasonable policy choice for the agency to make." *Id.* We cannot, however, affirm an agency interpretation found to be "arbitrary, capricious, or manifestly contrary to the statute." *Id.* at 844. Nor can we affirm if "it appears from the statute or its legislative history that the accommodation [chosen] is not the one that Congress would have sanctioned." *United States v. Shimer*, 367 U.S. 374, 383 (1961).

Our role on review of an action taken pursuant to section 112 is generally a limited one. Because the regulation of carcinogenic agents raises questions "on the frontiers of scientific knowledge," *Industrial Union Dep't, AFL-CIO v. Hodgson*, 499 F.2d 467, 474 (D.C. Cir. 1974), we have recognized that the Administrator's decision in this area "will depend to a greater extent upon policy judgments" to which we must accord considerable deference. *Id.*; *Lead Indus.*, 647 F.2d at 1146-47; *Environmental Defense Fund*, 598 F.2d at 82; *Hercules, Inc. v. EPA*, 598 F.2d 91, 106 (D.C. Cir. 1978). We have also acknowledged that "EPA, not the court, has the technical expertise to decide what inferences may be drawn from the characteristics of . . . substances and to formulate policy with respect to what risks are acceptable," *Environmental Defense Fund*, 598 F.2d at 83-84, and we will not second-guess a determination based on that expertise. *American Petroleum Inst. v. Costle*, 665 F.2d 1176, 1184 (D.C. Cir. 1981); *Lead Indus.*, 647 F.2d at 1146. Our only role is to determine whether "the agency has exercised a reasoned discretion, with reasons that do not deviate from or ignore the ascertainable legislative intent." *Lead Indus.*, 647 F.2d at 1145 (quoting *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 850 (D.C. Cir. 1970), *cert. denied*, 403 U.S.

923 (1971)). Despite this deferential standard, we find that the Administrator has ventured into a zone of impermissible action. The Administrator has not exercised his expertise to determine an acceptable risk to health. To the contrary, in the face of uncertainty about risks to health, he has simply substituted technological feasibility for health as the primary consideration under Section 112. Because this action is contrary to clearly discernible congressional intent, we grant the petition for review.

Given the foregoing analysis of the language and legislative history of section 112, it seems to us beyond dispute that Congress was primarily concerned with health in promulgating section 112. Every action by the Administrator in setting an emission standard is to be taken "to protect the public health." In setting an emission standard for vinyl chloride, however, the Administrator has made no finding with respect to the effect of the chosen level of emissions on health. Nor has the Administrator stated that a certain level of emissions is "safe" or that the chosen level will provide an "ample margin of safety." Instead, the Administrator has substituted "best available technology" for a finding of the risk to health.

In the decision withdrawing the proposed 1977 amendments, the Administrator mentioned the risks to health, see 50 Fed. Reg. 1182 (1985), but based his decision solely on the finding that "there is no improved or new control technology that has been demonstrated to significantly and consistently reduce emissions to a level below that required by the current standard." *Id.* at 1184. Nowhere in the decision did the Administrator state that the 1976 emission standards provide an "ample margin of safety" such that revisions to those standards are not necessary.

In the 1977 proposal to decrease the level of emissions, the Administrator did not determine the risk to health

under the then existing standard or under the proposed new standard. Nor did the Administrator explain why one standard was "safe" and the other was not. See 42 Fed. Reg. 28,154-157 (1977).

The absence of any finding regarding the relationship between the risk to health at a certain level of emissions and the "ample margin of safety" standard is also evident in the Administrator's decision adopting the 1976 standards. Again, the Administrator mentioned the risks to health before and after regulation, *see* 41 Fed. Reg. 46,560 (1976), but did not provide any explanation as to whether the risk was significant, or whether the chosen standard provided an "ample margin of safety."

In the three decisions regarding emission standards for vinyl chloride, the Administrator has made one finding regarding the duty to set emission standards that will provide an "ample margin of safety." The Administrator has determined that he is not required to determine on a case-by-case basis the risk to health at a particular level of emissions or to determine the relationship between that risk and "safety." Instead, the Administrator has adopted a generic rule, which when met, will always result in an "ample margin of safety." The Administrator has determined that this standard is met whenever he sets "emission standards that require emission reduction to the lowest level achievable by use of the best available control technology in cases involving apparent non-threshold pollutants where complete emission prohibition would result in widespread industry closure and EPA has determined that the cost of such closure would be grossly disproportionate to the benefits of removing the risk that would remain after imposition of the best available control technology." 40 Fed. Reg. 59,532, 59,534 (1975).

Thus, in setting emission standards for carcinogenic pollutants, the Administrator has decided to determine first the level of emissions attainable by best available

control technology. He will then determine the costs of setting the standard below that level and balance those costs against the risk to health below the level of feasibility. If the costs are greater than the reduction in risk, then he will set the standard at the level of feasibility. This exercise, in the Administrator's view, will always produce an "ample margin of safety."

* If there was any doubt that the Administrator has substituted technological feasibility for health as the primary consideration in setting emission standards under section 112, that doubt was dispelled by counsel for the EPA at oral argument. In response to a question from the court regarding a carcinogenic pollutant known to cause certain harm at 100 ppm, counsel stated that the Administrator could set an emission level at 99 ppm if that was the lowest feasible level and the costs of reducing the level below 99 ppm would be grossly disproportionate to the reduction in risk to health. Given the strong inference that harm would also certainly result at 99 ppm, the Administrator appears to have concluded that the "ample margin of safety" standard does not require any finding that a level of emissions is "safe." Instead, the Administrator need only find that the costs of control are greater than the reduction in risk to health. We disagree.

We find that the congressional mandate to provide "an ample margin of safety" "to protect the public health" requires the Administrator to make an initial determination of what is "safe." This determination must be based exclusively upon the Administrator's determination of the risk to health at a particular emission level. Because the Administrator in this case did not make any finding of the risk to health, the question of how that determination is to be made is not before us. We do wish to note, however, that the Administrator's decision does not require a finding that "safe" means "risk-free," see *Industrial Union Dep't*, 448 U.S. at 642, or a finding that the

determination is free from uncertainty. Instead, we find only that the Administrator's decision must be based upon an expert judgment with regard to the level of emission that will result in an "acceptable" risk to health. *Environmental Defense Fund*, 598 F.2d at 83-84. In this regard, the Administrator must determine what inferences should be drawn from available scientific data and decide what risks are acceptable in the world in which we live. See *Industrial Union Dep't*, 448 U.S. at 642 ("There are many activities that we engage in every day—such as driving a car or even breathing city air—that entail some risk of accident or material health impairment; nevertheless, few people would consider those activities 'unsafe.'"); *Alabama Power Co. v. Costle*, 636 F.2d 323, 360-61 (D.C. Cir. 1979). This determination must be based solely upon the risk to health. The Administrator cannot under any circumstances consider cost and technological feasibility at this stage of the analysis. The latter factors have no relevance to the preliminary determination of what is safe. Of course, if the Administrator cannot find that there is an acceptable risk at any level, then the Administrator must set the level at zero.

Congress, however, recognized in section 112 that the determination of what is "safe" will always be marked by scientific uncertainty and thus exhorted the Administrator to set emission standards that will provide an "ample margin" of safety. This language permits the Administrator to take into account scientific uncertainty and to use expert discretion to determine what action should be taken in light of that uncertainty. See *Environmental Defense Fund*, 598 F.2d at 83 ("by requiring EPA to set standards providing an 'ample margin of safety,' Congress authorized and, indeed, required EPA to protect against dangers before their extent is conclusively ascertained"); *Hercules*, 598 F.2d at 104 ("Under the 'ample margin of safety' directive, EPA's standards must protect against incompletely understood

dangers to public health and the environment, in addition to well-known risks."'). In determining what is an "ample margin" the Administrator may, and perhaps must, take into account the inherent limitations of risk assessment and the limited scientific knowledge of the effects of exposure to carcinogens at various levels, and may therefore decide to set the level below that previously determined to be "safe." This is especially true when a straight line extrapolation from known risks is used to estimate risks to health at levels of exposure for which no data is available. This method, which is based upon the results of exposure at fairly high levels of the hazardous pollutants, will show some risk at every level because of the rules of arithmetic rather than because of any knowledge. In fact the risk at a certain point on the extrapolated line may have no relationship to reality; there is no particular reason to think that the actual line of the incidence of harm is represented by a straight line. Thus, by its nature the finding of risk is uncertain and the Administrator must use his discretion to meet the statutory mandate. It is only at this point of the regulatory process that the Administrator may set the emission standard at the lowest level that is technologically feasible. In fact, this is, we believe, precisely the type of policy choice that Congress envisioned when it directed the Administrator to provide an "ample margin of safety." Once "safety" is assured, the Administrator should be free to diminish as much of the statistically determined risk as possible by setting the standard at the lowest feasible level. Because consideration of these factors at this stage is clearly intended "to protect the public health," it is fully consistent with the Administrator's mandate under section 112.¹¹

¹¹ In response to the facts presented in this case we have analyzed this issue by using a two-step process. We do not mean to indicate that the Administrator is bound to employ this two-step process in setting every emission standard under

We wish to reiterate the limited nature of our holding in this case because it is not the court's intention to bind the Administrator to any specific method of determining what is "safe" or what constitutes an "ample margin." We hold only that the Administrator cannot consider cost and technological feasibility in determining what is "safe." This determination must be based solely upon the risk to health. The issues of whether the Administrator can proceed on a case-by-case basis, what support the Administrator must provide for the determination of what is "safe," or what other factors may be considered, are issues that must be resolved after the Administrator has reached a decision upon reconsideration of the decision withdrawing the proposed 1977 amendments.

For the foregoing reasons, the petition for review is granted, the decision withdrawing the 1977 proposed rule is vacated, and this case is hereby remanded for timely reconsideration of the 1977 proposed rule consistent with this opinion.

It is so ordered.

§ 112. If the Administrator finds that some statistical methodology removes sufficiently the scientific uncertainty present in this case, then the Administrator could conceivably find that a certain statistically determined level of emissions will provide an ample margin of safety. If the Administrator uses this methodology, he cannot consider cost and technological feasibility: these factors are no longer relevant because the Administrator has found another method to provide an "ample margin" of safety.