

Ethyl Corporation v. EPA: Continuing Development of a Relaxed Burden of Proof in Public Health Controversies

The degradation of the environment and the corresponding impact on public health has been one of the most urgent and controversial policy problems of the last ten years. In addition to condemning the increasingly noticeable effects of pollution, many Americans feel that prevention of nature's destruction and of the depletion of resources has become an established social value. Despite this widespread public concern, the initial legal responses to the problem were haphazard and uncoordinated. As a result, environmental, energy, and resource law is only beginning to develop into a coherent body of law.

The constantly increasing energy demand of the United States is related closely to this pollution problem. This interaction is focused, in this casenote, on the automobile. The rapid development of automobile technology, combined with an apparently abundant and easily accessible supply of oil, allowed most Americans to purchase at least one car which could be operated at rather low cost. As a result, our society became dependent on automobiles and trucks for the major portion of personal and freight transportation. Today a substantial segment of all American economic activity is related to transportation, in general, and therefore to the consumption of energy.

In 1973, the "oil crisis" occurred and adjustments to the lack of reliable sources of oil are still taking place. During President Carter's administration, the most significant proposal to date has concerned the problem of energy and the need for a new Department of Energy.¹ This is a typical example of another trend of recent years: increased promotion of the public interest by public organizations and governmental agencies, such as the Environmental Protection Agency, with the result being more regulatory activities in a greater number of areas than ever before.

As the subject of this note, the *Ethyl Corp. v. EPA*² opinion is viewed more broadly as an outcome of the environment-versus-energy debate of the 1970's, because the case was essentially policy-based rather than

1. The Department of Energy Organization Act of 1977, Pub. L. No. 95-91, 91 Stat. 565 (1977).

2. 541 F.2d 1 (D.C. Cir. 1976) (*en banc*), *cert. denied*, 426 U.S. 941 (1976).

simply an exposition of narrow technical and legal questions.³ Protection of health and environment was found to be more compelling in this case than continued availability of high octane, leaded fuel for motor vehicles. The implication of *Ethyl* was that it was possible for the gasoline industry to continue producing high quality fuel, without the necessity of developing unreasonably expensive changes in manufacturing technology, while also protecting the public health.

In *Ethyl*, four gasoline manufacturers⁴ petitioned the United States Court of Appeals for the District of Columbia for review of regulations which were promulgated by the Environmental Protection Agency (EPA) Administrator on November 28, 1973. The regulations required manufacturers of gasoline containing lead additives to substantially reduce the lead content of their products over a five-year period.⁵ The primary focus of *Ethyl* was on the question of the quantum of scientific evidence necessary to regulate lead emissions from gasoline, pursuant to the Clean Air Act. The court ruled, in the majority opinion by Judge Skelly Wright, that for controversies which involve public health, the burden of proof should be relaxed from the traditional standard, which required the establishment of a preponderance of evidence based on scientific fact. The old rule stated that regulatory action could only occur on the basis of actual danger to the public health or welfare, not probable danger.

Ethyl was an important case because it authoritatively delineated the rule which was to be applied in extremely complex environmental cases. This rule was the culmination of a trend which began at least eight years before the rule was announced in *Ethyl*, and it probably will be a guiding principle in future regulation of public health. This note will present the main elements of *Ethyl*, the legislative history of relevant provisions of the Clean Air Act, and the trend of similar cases which preceded and followed *Ethyl*.

I. PROOF MAY BE PRECAUTIONARY RATHER THAN CONCLUSIVE

Section 211(c)(1)(A) of the Clean Air Act Amendments of 1970 granted the Administrator of the EPA the power to regulate "any fuel or fuel additive . . . if any emission products of such fuel or fuel additive *will endanger* the public health."⁶ Of all the main sources of human lead

3. Petition for Rehearing and Suggestion for Rehearing *En Banc*, *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976) [hereinafter cited as *Petition*] at 5. See Judge Harold Leventhal's view of these types of environmental cases, in K. DAVIS, *ADMINISTRATIVE LAW OF THE SEVENTIES*, § 29.01-7 at 676 (1976); Green, *The Resolution of Uncertainty*, 12 NAT. RES. J. 182, 184 (1972).

4. *Ethyl Corp.*, PPG Industries, Inc., Nalco Chemical Co., and the National Petroleum Refiners Ass'n.

5. 40 C.F.R. § 80 (1973).

6. 42 U.S.C. § 1857f-6c(a)(1)(A) (1970) (amended 1977) (emphasis added).

exposure, the most easily controlled is airborne lead because about ninety percent of it is derived from automotive vehicle emissions. Eradication of this source can occur by taking the lead from gasoline through a relatively simple process.⁷ Following three public comment periods, the EPA Administrator determined that automotive emissions from leaded gasoline create a significant risk of harm to the public health.⁸ He promulgated regulations which required a reduction in the lead content of leaded gasoline.

Four gasoline manufacturers alleged in separate actions that the Administrator misinterpreted and incorrectly applied the statutory standard upon which regulation was based, and that the scientific evidence which supported regulation was inconclusive. They also alleged that due process of law had been violated by the Administrator because new scientific studies were relied upon after the third comment period, and he did not request further comment at that time. In the initial opinion of a panel of the United States Court of Appeals for the District of Columbia, the court ruled in favor of the manufacturers after consolidating the actions.⁹ However, this opinion was vacated when an order was issued which granted rehearing *en banc*. On March 19, 1976 the court issued its final opinion. In a 5-4 decision, the court held that section 211(c)(1)(A) mandated a threshold decision by the EPA Administrator which is precautionary in nature. According to Judge Wright, the "will endanger" standard meant that if harm to the public health is merely threatened, regulation could occur, and there was no need to await actual harmful effects:

The meaning of "endanger" is not disputed. Case law and dictionary definition agree that endanger means something less than actual harm. When one is endangered, harm is *threatened*; no actual injury need ever occur. . . . Regulatory action may be taken before the threatened harm occurs; indeed, the very existence of such precautionary legislation would seem to *demand* that regulatory action precede, and, optimally, prevent, the perceived threat.¹⁰

The Administrator could therefore take preventive action against emission products of gasoline or gasoline additives on the basis of probable effects. A significant threat was all that needed to be shown.

7. Ethyl Corp. v. EPA, 541 F.2d 1, 9 (D.C. Cir. 1976). The other main sources are food and lead paint.

8. Note 5 *supra*.

9. Ethyl Corp. v. EPA, 7 ENVIR. REP. (BNA) 1353 (D.C. Cir. Jan. 28, 1975).

10. 541 F.2d at 13. See also Carolina Environmental Study Group v. United States, 510 F.2d 796, 799 (1975); and Note, *Imminent Irreparable Injury: A Need for Reform*, 45 S. CAL. L. REV. 1025, 1055-57 (1972) [hereinafter cited as *Imminent Injury*], (discussion of allowing a "margin-of-safety" in public health cases).

"Significance" was based on factual data and scientific studies utilized by the Administrator. The studies included evidence which showed that 40 micrograms of lead per 100 micrograms of blood indicated a health danger. Children were especially susceptible to this danger. The significance of the threat was based also on the fact that America's largest cities contained lead concentrations which were more than 2,000 times as great as those in the mid-Pacific Ocean area, and that "airborne lead is directly absorbed in the body through respiration to a degree that constitutes a significant risk to public health."¹¹ This definition may have been less demanding than a standard of absolute probability of harm, but it was more demanding than a small amount of evidence indicating a risk of harm.

The court stated that a case-by-case analysis was the proper method for the Administrator to utilize, and that public health may be endangered both by a lesser risk of a greater harm or a greater risk of a lesser harm.¹² "Endangerment" was a question of policy which should not be limited by the rigor required for solutions to questions of fact, according to the opinion. If the Administrator made a rational assessment based on suspected, rather than entirely conclusive, relationships between facts, the assessment was valid:

Where a statute is precautionary in nature, the evidence difficult to come by, uncertain, or conflicting because it is on the frontiers of scientific knowledge, the regulations designed to protect the public health, we will not demand rigorous step-by-step proof of cause and effect. Such proof may be impossible to obtain if the precautionary purpose of the statute is to be served.¹³

11. 541 F.2d at 38.

12. *Id.* at 18.

13. *Id.* at 28. This is the result of the risk (or cost)-benefit analysis mandated by section 211(c)(2)(B) of the Clean Air Act, which was promoted in several law review articles. The Administrator must have balanced the risk of harm against the benefit of the item whose manufacture causes pollution. Several authors recommended consideration of the risk of harm as a quantifiable cost of technology. See also Burger, *Regulation and Health: How Solid is Our Foundation?*, 5 ENVIR. L. REP. (ELI) 50179 (1975) (analysis of the reasons for low quality in scientific information used in regulatory decisionmaking, its effects, and suggestions for making improvements); Gelpe and Tarlock, *The Uses of Scientific Information in Environmental Decisionmaking*, 48 S. CAL. L. REV. 371, 427 (1974); Green, *supra* note 3; Karstadt, *Protecting Public Health from Hazardous Substances: Federal Regulation of Environmental Contaminants*, 5 ENVIR. L. REP. (ELI) 50165, 50173-74, (suggested several relevant criteria to use in applying Judge Wright's risk test, *i.e.*, how severe is the harm and what is the risk?); Kraus, *Environmental Carcinogenesis: Regulation on the Frontiers of Science*, 7 ENVIR. L. 83, 104-12, 124-34 (1976); 25 CATH. U.L. REV. 178 (1975); Note, *Reserve Mining—The Standard of Proof Required to Enjoin an Environmental Hazard to the Public Health*, 59 MINN. L. REV. 893, 922 (1975) [hereinafter cited as *Proof to Enjoin*]; *Imminent Injury*, *supra* note 10 at 1051; and Note, *Review of EPA's Significant Deterioration Regulations: An Example of the Difficulties of the Agency-Court Partnership in Environmental Law*, 61 VA. L. REV. 1115, 1150-58 (1975) [hereinafter cited as *Deterioration Regulations*].

Moreover, other provisions of the Clean Air Act, such as sections 108,¹⁴ 109,¹⁵ 110,¹⁶ or 202,¹⁷ did not prohibit the Administrator from taking regulatory action with respect to lead additives.¹⁸

The proper scope of judicial review of administrative actions was also an important issue dealt with in the decision. Agency determinations such as those of the EPA were presumed to be valid, and the standard of review was whether these determinations were "rational and based on consideration of the relevant factors."¹⁹ In applying this standard, Judge Wright found that the Administrator allowed adequate criticism and comment before he issued the final rule. Although this rule was based on new

14. 42 U.S.C. § 1857c-3(a)(1)(A) (1970) (amended 1977).

15. 42 U.S.C. § 1857c-4(b)(1) (1970) (amended 1977).

16. 42 U.S.C. § 1857c-5 (1970 & Supp. V 1975) (amended 1977).

17. 42 U.S.C. § 1857f-1 (1970 & Supp. V 1975) (amended 1977).

18. 541 F.2d at 13-17.

19. 541 F.2d at 36, *citing* Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416 (1971), and Bowman Transp., Inc. v. Arkansas-Best Freight Sys. Inc., 419 U.S. 281, 285, 290 (1974). The situation in *Ethyl* was regarded as a rulemaking proceeding rather than adjudicatory, and the essence of the conflict of opinion there dealt with the various standards of review, i.e., arbitrary and capricious, substantial evidence, or clear error of judgment. The controversy arose over which of these standards was proper in these differing types of administrative proceedings. In *Ethyl*, the court decided on the basis of established precedent. However, a more recent opinion has indicated the ambiguity surrounding application of a "proper" standard by a reviewing court:

In the absence of clearer guidance, courts have generally tailored the scope of review to the nature of the issues at stake, their susceptibility to articulation and demonstrable proof, the specificity of any special standards for review contained in the enabling legislation, the formality of the required administrative record, and the comparative competence of courts and agencies.

American Medical Ass'n v. Mathews, 429 F. Supp. 1179, 1204 (N.D. Ill. 1977). See generally Permian Basin Area Rate Cases, 390 U.S. 747 (1968); Consolo v. Federal Maritime Comm'n, 383 U.S. 607, 620 (1966); Universal Camera Corp. v. NLRB, 340 U.S. 474, 488 (1951); Sierra Club v. EPA, 540 F.2d 1114 (D.C. Cir. 1976); National Asphalt Pavement Ass'n v. Train, 539 F.2d 775 (D.C. Cir. 1976); Reserve Mining Co., v. EPA, 514 F.2d 492 (8th Cir. 1975); Environmental Defense Fund, Inc. v. EPA, 510 F.2d 1292 (D.C. Cir. 1975); South Terminal Corp. v. EPA, 504 F.2d 646 (1st Cir. 1974); Amoco Oil Co. v. EPA, 501 F.2d 722 (D.C. Cir. 1974); State of Tex. v. EPA, 499 F.2d 289 (5th Cir. 1974); Associated Indus. of N.Y. State, Inc. v. Department of Labor, 487 F.2d 342 (5th Cir. 1973); Essex Chemical Co. v. Ruckelshaus, 486 F.2d 427 (D.C. Cir. 1973); Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375 (D.C. Cir. 1973); International Harvester Co. v. Ruckelshaus, 478 F.2d 615 (D.C. Cir. 1973); THOMPSON, FEDERAL ENVIRONMENTAL LAW at 192 (E. Dolgin and T. Guilbert ed. 1974); Gardner, *Federal Courts and Agencies; An Audit of the Partnership Books*, 75 COL. L. REV. 800 (1975); Leventhal, *Environmental Decision-making and the Role of the Courts*, 122 U. PA. L. REV. 509 (1974); Pedersen, *Formal Records and Informal Rulemaking*, 85 YALE L.J. 38 (1975); Stewart, *The Development of Administrative and Quasi-Constitutional Law in Judicial Review of Environmental Decisionmaking: Lessons from the Clean Air Act*, 62 IOWA L. REV. 713 (1977); Williams, "Hybrid Rulemaking" Under the Administrative Procedure Act: A Legal and Empirical Analysis, 42 CHI. L. REV. 401 (1975); Wright, *The Courts and the Rulemaking Process: The Limits of Judicial Review*, 59 COR. L. REV. 375 (1974); 1971 UTAH L. REV. 388 (1971); *Deterioration Regulations*, *supra* note 13 at 1129-30 and 1141-50; 84 YALE L. J. 1750 (1975).

theories which were somewhat different from those on which the originally proposed regulations were based, it was validly promulgated.²⁰ Furthermore, the Administrator's use of predictions based on experimental calculations and bolstered by clinical and epidemiological studies was plainly within the scope of the precautionary "will endanger" standard.²¹ In the court's opinion, it was not necessary that lead additives endanger public health in and of themselves. These additives could be "properly considered together with all other human exposure to lead."²² Although airborne lead may not have been the most significant factor affecting blood lead levels, the Administrator made a sound conclusion that airborne lead was a significant factor. The determination that children with high blood lead levels were significantly affected by the lead in dust which falls from automobiles was properly based on studies used by the EPA Administrator.²³

The major dissenting opinion was written by Judge Wilkey and concurred in by two other judges. It was essentially the same opinion which was issued by the earlier majority, before the final rehearing *en banc* was granted. Its primary conclusion was that the Administrator failed to allow adequate notice and comment under the Administrative Procedure Act²⁴ during the period of formulation of the regulations, particularly with respect to new scientific studies on which he relied. To the three dissenting judges, a "meaningful opportunity for *informed* public comment" was not allowed.²⁵ Furthermore, the majority's attempt to distinguish actual from potential harm, and risk from fact, only confused the issues and ratified arbitrary and capricious speculations made by the Administrator.²⁶ Judge Wilkey argued that the best proof of potential harm was events which had occurred in the past, from which logical assessments could be made rather than mere hunches. Congress directed the Administrator to consider "all relevant medical and scientific evidence,"²⁷ thus mandating a factual judgment rather than a policy judgment. Finally, Judge Wilkey contended that the data on which the Administrator relied did not support a conclusion that a significant portion of the general urban population, not occupationally exposed to lead, had elevated levels of blood lead.²⁸ The Administrator "acted

20. 541 F.2d at 48.

21. *Id.* at 43.

22. *Id.* at 29.

23. *Id.* at 43-46.

24. 5 U.S.C. § 553 (1970).

25. 541 F.2d at 85.

26. *Id.* at 95-96.

27. *Id.* at 96.

28. *Id.* at 102-03.

arbitrarily in choosing among the data relating to a possible correlation between air and blood lead levels,"²⁹ and in some instances did not explain why he so chose.

In Judge Wilkey's dissent, the essence of the majority opinion, which set forth the concept of a less restrictive burden of proof, was treated secondarily to procedural matters. The majority held that the Administrator did not need to allow further comment after the newer studies were introduced, because the essential basis of his proposed action remained unchanged and the new studies only added information to that which already existed.³⁰ Moreover, in Judge Wright's opinion, this was what Congress actually intended with the provision that the Administrator consider "all relevant medical and scientific evidence" before taking final action. If he had allowed further comment, the process could have gone on indefinitely. Furthermore, it was the quantum of scientific evidence in health and environmental controversies to which the Administrator's action and this legal decision were directed. The dissent not only shifted the focus of the case, according to the reasoning of the majority, but it also overlooked the outcome of the congressional process which mandated regulation on the basis of threatened, though unproven, harm.

II. THE CLEAN AIR ACT AMENDMENTS OF 1970

The legislative history of the Clean Air Act Amendments of 1970 seemed to establish conclusively that the Administrator was authorized not only to regulate fuel additives, but also to do so without making specific factual findings. Preceding the enactment of the amendments of 1970, Richard Nixon, in the President's Message on the Environment, called for administrative power to regulate fuel composition and additives.³¹ Generally, his administration approved of the proposed amendments and, in particular, called for enactment of the Senate version, which was less restrictive because it allowed the Secretary of Health, Education and Welfare power to regulate fuel without making conclusive, specific factual findings. This authority was transferred to the EPA Administrator in the enacted statutes.

As the EPA set out in its Petition for Rehearing: "The House version of Section 211 required that a determination of endangerment be based on 'specific findings' derived from the evidence. [This restriction did not survive in section 211. Its] deletion was meant to have significance."³²

29. *Id.* at 105.

30. *Id.* at 48.

31. 116 CONG. REC. S32,908 (daily ed. Sept. 21, 1970).

32. Petition, *supra* note 3 at 7 n.3, citing H.R. REP. No. 91-1146, 91st Cong., 2d Sess. 42 (1970), and *Amoco Oil Co. v. EPA*, 501 F.2d 722 (1974). See also S. REP. No. 91-1196, 91st Cong., 2d Sess. 34 (1970), and 116 CONG. REC. H19,227 (daily ed. June 10, 1970).

The deletion was made despite the fact that strong doubts were expressed throughout the hearings on the real danger of lead additives.³³ One of the major proponents of the Clean Air Act, Senator Edmund Muskie, indicated the primary reasons for the adoption of the Senate version: "[B]road environmental, esthetic and health considerations underlying the enactment of this legislation . . . should be kept in mind in making these determinations."³⁴ The fact that the requirement of specific findings would probably make implementation of the fuel control authority ineffective was another primary reason for its exclusion from the enacted bill.³⁵

Furthermore, it was the intention of Congress to allow the Administrator to make a policy judgment in assessing the significance of risks of harm. This judgment was not intended to be made on the basis of factual evidence alone. Predictions based on inconclusive information were not necessarily a less reliable methodology than those based on historical facts, although they did entail new difficulties. According to a widely-recognized authority:

[T]he problems of properly using and applying the [scientifically complex] information are substantively no different than the problems of using and applying other types of definite information. In fact, information of this type will generally identify future harms with certainty, and not only the risks of future harms. . . . [T]he presumption that indefinite future harm cannot outweigh present harm is invalid and must not be used as a basis for decisionmaking.³⁶

Elliot Richardson, Secretary of Health, Education and Welfare, indicated his support of the provision which relaxed the burden of proof when the Senate bill was in conference,³⁷ and Secretary of Transportation John Volpe noted that fuel standards probably would not adversely affect transportation safety.³⁸

In response to the problem surrounding policy-versus-fact determinations, and to the *Ethyl* opinion in particular, Congress considered revising section 211 in 1976-77 to clarify that the Administrator has broad discretion in matters such as these. The difficulty of establishing conclusive information on health effects was relevant to this proposal, although the revision was not included in the recently enacted Clean Air Act Amendments of 1977.³⁹

33. See 116 CONG. REC. S32,921 (daily ed. Sept. 21, 1970) (remarks of Sen. Baker).

34. *Id.* at S42,386 (daily ed. Dec. 18, 1970). See *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d at 381-82 (D.C. Cir. 1973).

35. 116 CONG. REC. H19,217-18 (daily ed. June 10, 1970). See also Burger, *supra* note 13 at 50182.

36. Gelpe and Tarlock, *supra* note 13 at 420; *Proof to Enjoin*, *supra* note 13 at 914-15. See also 1975 UTAH L. REV. 581, 588, n.65 (1975).

37. 116 CONG. REC. S42,391 (daily ed. Dec. 18, 1970).

38. H.R. REP. NO. 91-1146, 91st Cong., 2d Sess. 882 (1970).

39. The Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (1977).

III. A DECADE OF CASE LAW DEVELOPMENT

Dating back to the sixties, the United States Court of Appeals for the District of Columbia has been instrumental in formulating new approaches in the area of the quantum of scientific proof required to sustain administrative action. This court and others have upheld the rule of a relaxed burden of proof in several public interest disputes. In *Ethyl*, the court permitted the administrator of a government agency to take regulatory action on the basis of negative health effects which were not entirely conclusive. The decision was a continuation of a development that arose in numerous other cases, and in several legislative enactments of the last ten years. Some of these cases and statutes are set out in this section in order to illustrate the trend.

A. *AUTOMOTIVE PARTS AND ACCESSORIES ASSOCIATION V. BOYD (1968)*⁴⁰

In this case, Judge McGowan of the United States Court of Appeals for the District of Columbia held that safety standards pursuant to the National Traffic and Motor Vehicle Safety Act of 1966⁴¹ were not invalid, despite the lack of specific and detailed findings and conclusions which traditionally had issued from formal proceedings.⁴² These standards required that new passenger automobiles be factory-equipped with front seat head restraints.⁴³ According to Judge McGowan, the benefits of restraints outweighed the risks, such as possible decreased driver visibility.⁴⁴

In relation to *Ethyl*, this decision was important because it was one of the earlier United States Court of Appeals for the District of Columbia

Section 211(c)(1)(A) was not modified. However, two Senate bills were considered during the first session of the 95th Congress which contained provisions changing that section. One of them stated: "Section 211(c)(1)(A) of such Act is amended to read as follows: '(A) if in the judgment of the Administrator any emission product of such fuel or fuel additive causes, or contributes, to air pollution which may reasonably be anticipated to endanger the public health or welfare. . . .'" S. 253, 95th Cong., 1st Sess. § 401(e) (1977).

S. 919 (The Riegle-Griffin Amendment) attempted to alter the standards of review and administrative procedure for important Clean Air Act regulatory actions. Neither this amendment nor the one in S. 253 survived, however, *See also* LaPierre, *Technology-Forcing and Federal Environmental Protection Statutes*, 62 Iowa L. Rev. 771, 797 n.139 (1977), and *Proof to Enjoin*, *supra* note 13 at 923-26.

40. 407 F.2d 330 (D.C. Cir. 1968).

41. (Supp. III 1968) (amended 1974) (current version at 15 U.S.C. §§ 1381-1409 (1970 & Supp. V 1975)).

42. 407 F.2d at 337, *citing* American Trucking Ass'ns v. United States, 344 U.S. 298, 320 (1953), Van Curler Broadcasting Corp. v. United States, 236 F.2d 727, 729 (D.C. Cir. 1956), *cert. denied*, 352 U.S. 935 (1956), and Logansport Broadcasting Corp. v. United States, 210 F.2d 24, 27-28 (D.C. Cir. 1954).

43. 33 Fed. Reg. 2945 (1968).

44. 407 F.2d at 342.

decisions which dealt with the burden of proof question, and it allowed the Federal Highway Administrator the discretion to make a policy judgment in the interests of public safety. Conclusive factual evidence concerning the risk of injury without head restraints, and the benefits of factory installation, was not required. This determination was significant because it indicated that the court applied a less demanding burden of proof rule in a public safety dispute, although it occurred before enactment of the Clean Air Act Amendments of 1970 and was related to transportation safety rather than health and environment.

Regulation in *Auto Parts* was based on a provision in the Safety Act which allowed the Secretary of Transportation to issue safety standards for motor vehicle equipment, and to require manufacturers to adhere to those standards.⁴⁵ This section of the Act was typical of the public interest attitude which was prevalent in subsequent public health and welfare statutes, such as the Clean Air Act Amendments of 1970. Here, the court ruled that absent a requirement of "specific findings" in the statute, the Federal Highway Administrator had the authority to take action to protect public safety.

B. *AMOCO OIL COMPANY V. EPA (1974)*⁴⁶

This opinion, written by Judge Skelly Wright, upheld EPA regulations⁴⁷ which prohibited the use of leaded gasoline in automobiles with catalytic converters. These regulations also required national marketing of at least one grade of unleaded gasoline, pursuant to sections 211(c) and (d) of the Clean Air Act.⁴⁸ Furthermore, when regulations dealt with questions which were essentially of a policy-making nature, predictions of matters which were "on the frontiers of scientific knowledge" could have been based merely on sufficient reasoning and explanation. Conclusive factual findings were not necessary.⁴⁹ "[A] rule-making agency necessarily deals less with 'evidentiary' disputes than with normative conflicts, projections from imperfect data, experiments and simulations,

45. (Supp. III 1968) (amended 1974) (current version at 15 U.S.C. §§ 1391(2)-(4), 1397(a) (1970 & Supp. V 1975)). The decision also set forth rules for the scope of judicial review which were cited in several other cases, including some which will be discussed in this casenote. As will be shown, most of the cases which dealt with public health and safety involved procedural as well as substantive issues.

46. 501 F.2d 722 (D.C. Cir. 1974).

47. EPA Regulation of Fuels and Fuel Additives, 40 C.F.R. § 80 (1973).

48. 42 U.S.C. § 1857f-6c(c) to (d) (1970 & Supp. V 1975) (amended 1977). See the Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 9(a), 84 Stat. 1698 (1970).

49. 501 F.2d at 740, citing *Industrial Union Dep't, AFL-CIO v. Hodgson*, 499 F.2d 467, 472-76, 488 (D.C. Cir. 1974). See generally *Carolina Environmental Study Group v. United States*, 510 F.2d 796, 799 (D.C. Cir. 1975), and *Kennecott Copper Corp. v. EPA*, 462 F.2d 846, 849-50 (D.C. Cir. 1972).

educated predictions, differing assessments of possible risks, and the like. The process is *quasi*-legislative in character. . . ."⁵⁰

Central to *Amoco* was the question of the quantum of scientific proof necessary to protect public health and the environment. The case dealt with a section of the Clean Air Act which was directly related to the one at issue in *Ethyl*, and lead emissions were again the problem. Moreover, *Amoco* was relied upon to a greater extent by the petitioners in *Ethyl* than any other decision. Judge Wright took part in both *Ethyl* and *Amoco* within the same time period (1973-74), and his view was almost identical in the two cases. In both decisions he held that when the EPA Administrator promulgated a rule, Congress intended to require only a reasonable, adequately explained determination.

C. *SOCIETY OF THE PLASTICS INDUSTRY, INC. v. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION*⁵¹

In *Plastics*, the United States Court of Appeals for the Second Circuit ruled that regulations⁵² promulgated by the Secretary of Labor pursuant to the Occupational Safety and Health Act (OSHA)⁵³ were valid. These regulations prohibited a certain level of exposure of workers to vinyl chloride. The Secretary was required by law to protect the workers even though the evidence was not conclusive on the carcinogenic tendency of vinyl chloride, according to the majority opinion.

[T]he ultimate facts here in dispute are "on the frontiers of scientific knowledge," and, though the factual finger points, it does not conclude. Under the command of OSHA, it remains the duty of the Secretary to act to protect the workingman, and to act even in circumstances where existing methodology or research is deficient.⁵⁴

With this case a trend became apparent, because the decisions upholding regulations which prevent probable harm to public health were rendered more frequently. *Ethyl* was the culmination of this trend when it was decided the following year. Once again, the statute in question sought to protect public health and working people in particular, although it did not specifically authorize the Secretary of Labor to act without specific findings or pursuant to a less demanding burden of proof. However, in *Plastics* the court held that where the facts are "on the frontiers of scientific knowledge," conclusive scientific determinations need not be made by the Secretary. The similarity to *Ethyl* was strong since both cases involved public health, and the same standard was

50. 501 F.2d at 735.

51. 509 F.2d 1301 (2d Cir. 1975).

52. 29 C.F.R. § 1910.93q (1974).

53. 29 U.S.C. § 651 (1970 & Supp. V 1975).

54. 509 F.2d at 1308.

adopted for reviewing the quantum of proof. In fact, the petitioners in *Ethyl* utilized *Plastics* in their Supplemental Brief.⁵⁵

*D. ENVIRONMENTAL DEFENSE FUND, INC. v. EPA (1975)*⁵⁶

In this case, the United States Court of Appeals for the District of Columbia, Judge Leventhal writing, held that the EPA's order suspending the registration and prohibiting the manufacture and sale of pesticides was a reasonable exercise of discretion. The order was issued pursuant to the Federal Environmental Pesticide Control Act of 1972.⁵⁷ A provision in the Act allowed suspension of the registration of a pesticide when an "imminent hazard" to public health existed. This provision was similar to the "will endanger" portion of the Clean Air Act, and here again the issues centered on interpretation of the term. In *Environmental Defense Fund* (EDF), the majority concluded that the evidence was sufficient to support the EPA's finding that an "imminent hazard" existed.⁵⁸ This evidence included data that showed the pesticides aldrin and dieldrin to be carcinogenic in mice and rats, and also indicated a causal connection between pesticide use on plants and its ingestion by humans.

[T]he function of the suspension decision is to make a preliminary assessment of evidence, and probabilities, not an ultimate resolution of difficult issues. We cannot accept the proposition . . . that the Administrator's findings [are] insufficient because controverted by respectable scientific authority. It [is] enough at this stage that the administrative record contain[s] respectable scientific authority supporting the Administrator.⁵⁹

EDF was another United States Court of Appeals for the District of Columbia decision of recent vintage which interpreted the provisions of yet another public interest law. This time the statute dealt with the controversial issue of the regulation of pesticides. *EDF* was a further development of the less restrictive burden of proof rule. Regulatory action was upheld when based on substantial evidence. Judge Leventhal found that imminent hazard need not occur at a time of crisis only,

55. Supp. Brief for the Respondent at 10, *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976).

56. 510 F.2d 1292 (D.C. Cir. 1975).

57. The Federal Environmental Pesticide Control Act of 1972, § 6(b)-(c), 7 U.S.C. § 136d(b)-(c), (1972 & Supp. V 1975) (amended 1975).

58. 510 F.2d at 1298-1303. 7 U.S.C. § 136d(c)(1) states: "If the Administrator determines that action is necessary to prevent an imminent hazard during the time required for cancellation or change in classification proceedings, he may, by order, suspend the registration of the pesticide immediately."

59. 510 F.2d at 1298, quoting *Environmental Defense Fund, Inc. v. EPA*, 465 F.2d 528, 537 (D.C. Cir. 1972), in which the EDF sought review of the Administrator's refusal to suspend registration of these pesticides, and the court remanded for consideration of the Report of the scientific Advisory Committee which had been appointed. Compare *Environmental Defense Fund, Inc. v. Ruckelshaus*, 439 F.2d 584, 596 (D.C. Cir. 1971). See also 25 CATH. U.L. REV. 178 (1975).

but rather it "is enough if there is *substantial likelihood* that serious harm will be experienced during the year or two required in any realistic projection of the administrative process."⁶⁰

*E. RESERVE MINING COMPANY V. UNITED STATES (1975)*⁶¹

In *Reserve Mining*, the Eighth Circuit Court of Appeals ruled that discharge of taconite tailings into Lake Superior called for preventive, precautionary measures to abate the pollution problem and its corresponding health effects.⁶² The majority held that the Federal Water Pollution Control Act (FWPCA) mandated such measures,⁶³ although it stated that the discharges were not an "imminent" danger. The court also concluded that the studies presented were not conclusive with respect to carcinogenic effects.⁶⁴

Reserve Mining is one of the most widely recognized cases in environmental law. It involved pollution in both water and air and highly complex scientific questions. On-land disposal of the tailings was only recently initiated, two years after the main decision presented herein.

According to the FWPCA, the United States must have shown that water pollution was violating state water quality standards and "endangering the health or welfare of persons."⁶⁵ This was another ambiguous public interest law term, which was found to require the same relaxed showing of proof as in *Ethyl*:

[W]e believe that Congress used the term "endangering" in a precautionary or preventive sense, and therefore, evidence of potential harm as well as actual harm comes within the purview of that term. We are fortified in this view by the flexible provisions for injunctive relief which permit a court "to enter such judgment and orders enforcing such judgment as the public interest and the equities of the case may require."⁶⁶

The court also heavily quoted Judge Wright's dissent from *Ethyl* in the panel decision of January 28, 1975. In *Reserve Mining*, under the terms

60. 510 F.2d at 1297, *citing* Environmental Defense Fund, Inc. v. EPA, 465 F.2d 528 (D.C. Cir. 1972).

61. 514 F.2d 492 (8th Cir. 1975).

62. *Id.* at 528.

63. 33 U.S.C. § 1160(g)(1) (1970) (amended 1972) (current version at 33 U.S.C. § 1364 (Supp. V 1975)). *Compare* 33 U.S.C. § 1161(d) (1970) (amended 1972). The current version, however, adopted the standard of "imminent and substantial endangerment to the health of persons," which is more demanding than the previous one. In water pollution situations, therefore, the Administrator must now present more conclusive proof.

64. 514 F.2d at 529. However, due to the economic necessity of Reserve Mining Company's continued operation, *inter alia*, the court refused to issue an injunction, and the opinion has been criticized by some authors. *See generally* 1975 DET. C. L. REV. 335 (1975); 60 IOWA L. REV. 299 (1974); *Proof to Enjoin, supra* note 13 at 917-22; 1975 UTAH L. REV. 581, 591 (1975).

65. 33 U.S.C. § 1160(g)(1) (1970) (amended 1972).

66. 514 F.2d at 528, *quoting* 33 U.S.C. § 1160(c)(5) (1970) (amended 1972).

of the FWPCA, the court reinforced the view that conclusive health effects are not required before preventive action can be taken.

F. *NATIONAL ASPHALT PAVEMENT ASSOCIATION V. TRAIN (1976)*⁶⁷

Judge McGowan, of the United States Court of Appeals for the District of Columbia, upheld the EPA Administrator's issuance of standards of performance⁶⁸ for asphalt concrete plants under the Clean Air Act.⁶⁹ According to Judge McGowan, decisions of policy did not require the same type of proof as certain factual questions, and a reviewing court should not use the substantive rigor appropriate to factual questions.⁷⁰ "[T]he Administrator's evaluation of those risks involves questions which are 'particularly prone to uncertainty,' and as a result 'the statute accords the [Administrator] flexibility to assess [those] risks and make essentially legislative policy judgments. . . .'"⁷¹

National Asphalt was a post-*Ethyl* opinion by the District of Columbia Circuit Court. Like *Ethyl*, *National Asphalt* involved the Clean Air Act. A heavy reliance was placed on *Ethyl* by Judge McGowan here, and *Auto Parts* was also cited. This case was essentially a repeat of *Ethyl* because the EPA Administrator used the concept that asphalt plant pollution was a nationwide contributor to the air pollution problem. He pointed out that asphalt plant pollution appeared to be contributing significantly enough to require administrative action. In his opinion this was true, despite the fact that the level of "significance" of this stationary source in relation to other sources and in relation to the entire national problem could not be determined with absolute certainty. One important distinction between *National Asphalt* and *Ethyl* was that the former involved different provisions of the Clean Air Act because a stationary source was involved rather than a moving source.⁷²

A noticeable trend has taken place in the area of quantum of proof in public interest cases, with the United States Court of Appeals for the District of Columbia leading the way. Regulatory action may now be taken on the basis of suspected health effects which appear to have (had) considerable past, present, or future impact. Absolute, conclusive proof is no longer required.

67. 539 F.2d 775 (D.C. Cir. 1976).

68. 39 Fed. Reg. 9307 (1974).

69. 42 U.S.C. § 1857c-6(b)(1)(B) (1970 & Supp. V 1975) (amended 1977).

70. 539 F.2d at 783.

71. *Id.* at 783, quoting *Ethyl Corp. v. EPA*, 541 F.2d 1, 24, 26 (D.C. Cir. 1976) cert. denied, 426 U.S. 941 (1976).

72. The Clean Air Act Amendments of 1970, §§ 111, 111(b)(1)(A), 42 U.S.C. §§ 1857c-6, 1857c-6(b)(1)(A) (1970 & Supp. V 1975) (amended 1977).

IV. CONCLUSION

When viewed in the light of legislative history and the consistent interpretations of other cases and statutes, *Ethyl* seems to be simply one of many cases which stands for a new black letter rule of law. However, one of the most important aspects of *Ethyl* is that it sets out the rule on the quantum of scientific evidence in an authoritative manner. In terms of the environment-versus-energy debate, *Ethyl* seems especially relevant compared to the other cases discussed herein, and to environmental and transportation law generally, in its resolution of a problem which is characteristic of the American way of life. This problem is the continued availability of high octane, leaded fuels for the operation of our methods of transportation, as against the necessity of protecting the environment. Leaded fuel was devised and developed as the motor car industry evolved. Over the years, high performance of auto engines had also become a social value of some significance. The United States Court of Appeals for the District of Columbia found that protection of health and environment was at least equally valuable as continued availability of our traditional form of leaded fuel.

Ethyl changed the law not only in terms of applying a social value of recent origin, but also in terms of revising the rules of proof in cases which involved the public health. Today, the EPA Administrator may make a judgment based primarily on public "policy" considerations which are authorized by statute, rather than solely on "fact" determinations which are derived from conclusive evidence. *Ethyl* applied the relaxed burden of proof rule in a compelling manner, by relating the facts to previous decisions of a similar nature and by utilizing the court's prodigious research and writing talents. Before the late 1960's, the required quantum of proof was a preponderance of evidence, in which a stricter burden of proof was placed on a party who took action against another in nuisance, federal common law, or for issuance of an injunction.⁷³ In the 1970's, the problems dealt with in environmental protection and public health cases were new and unique, requiring new approaches to the law.

The social value that was promoted in *Ethyl* was reasonable since it was a reflection of the value's increased importance to society. Ten years ago, there was very little consciousness in this country of the vastness of pollution and energy problems, and *Ethyl*, as well as the cases preceding it, has had an impact on this lack of awareness. The change in rules of proof was also reasonable because it was one method of adequately protecting this kind of unquantifiable value, which pos-

73. This standard has not been replaced in all cases. See note 63 *supra*.

essed a long period of latency before noticeable effects occurred. Indeed, public health and the environment would have been severely imperiled if regulation occurred only *after* harmful effects had already taken their toll, as the court recognized.

The development of a less stringent burden of proof in cases involving agency regulations to protect public health is a positive trend which is necessary in civilized society.⁷⁴ The record thus far seems to show that agency officials, entrusted with the discretion to make public health choices, have usually made wise decisions. The main difficulty, however, may occur when agency officials decide more on the basis of personal bias than on reasoned consideration of all the scientific evidence. This is a particularly acute problem for decision-makers in our modern society, which requires vast amounts of fuel and other "dangerous" products to continue progressing economically. The ultimate dilemma is how much value should be placed on protection of health and environment, as against the need for energy and other necessities.

R. Douglas Taylor

74. See also Pedersen, *supra* note 19 at 49-50; Sive, *Foreward: Roles and Rules in Environmental Decisionmaking*, 62 IOWA L. REV. 637, 640 (1977); 84 YALE L.J. 1750, 1759-68 (1975).