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THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 AND NUCLEAR POWER PLANT LICENSING: JUDICIAL MODIFICATION OF AGENCY RULEMAKING—NATURAL RESOURCES DEFENSE COUNCIL, INC. V. NUCLEAR REGULATORY COMMISSION

In 1946, Congress enacted the nation's first atomic energy act,¹ authorizing exclusive government control of the peacetime use of nuclear energy.² The era of commercial development of nuclear power was ushered in with the passage of the Atomic Energy Act of 1954.³ The purpose of both acts was to improve the general welfare of the country through the development of nuclear technology within the bounds of the national defense and the health and safety of the public.⁴

Despite this national commitment to the public welfare, the health and safety of the public has been ignored in certain areas of nuclear power plant licensing. In particular, the problem of long-term radioactive waste management⁵ has not been addressed satisfactorily by nu-

3. 42 U.S.C. §§2011-2296 (1970). Section 103 of the Atomic Energy Act of 1954 authorized the AEC to issue nuclear power plant licenses "for industrial or commercial purposes." 42 U.S.C. §2133 (1970). The 1954 Act vested in the AEC the dual responsibilities for promotion and regulation of nuclear technology. *Id.* 42 U.S.C. §§2011(b), 2012(e) (1970). After public criticism of these incompatible functions began to grow in the 1960's, Congress responded by enacting the Energy Reorganization Act of 1974, 42 U.S.C. §5801 (Supp. V 1975); S. REP. No. 980, 93rd Cong., 2d Sess. (1974). The regulatory, or licensing, aspect of nuclear energy development was vested in the Nuclear Regulatory Commission (NRC); research and development activities were allocated to the Energy Research and Development Administration (ERDA). 42 U.S.C. §§5842, 5801(b) (Supp. V 1975).

4. 42 U.S.C. §2011(b) (1970).

5. "Radioactive (or nuclear) waste management" will be used in this Note to refer to both nuclear waste disposal and fuel reprocessing activities. These two events are a portion of the "uranium fuel cycle," a chain of events beginning with the mining and shipping of uranium ores to a materials plant and ending with fuel reprocessing and nuclear waste disposal. Given that only the passage of time results in the detoxification of radioactive wastes created by the operation of nuclear power plants, "waste disposal" will be used here to mean the physical isolation and storage of wastes. "Fuel reprocessing" will be used to refer to that part of the uranium fuel cycle in which fertile and fissile spent fuel elements discharged from the nuclear reaction are recovered, re-enriched and refabricated into usable fuel elements for subsequent reactions. See S. GLASSTONE, SOURCEBOOK ON ATOMIC ENERGY, §§15.185-87, at 616 (3d ed. 1967).

^{1.} Act of Aug. 1, 1946, ch. 724, 60 Stat. 755 [hereinafter referred to as 42 U.S.C. §2011 (1970)].

^{2.} Id. The Atomic Energy Act of 1946 created the Atomic Energy Commission (AEC) for the purpose of fully controlling research and development of nuclear technology and the construction and use of federal nuclear power plants.

clear energy administrators.⁶ In recent years, the growing accumulation of highly toxic military and commercial wastes⁷ has concerned both critics and advocates of nuclear power.⁸

The passage of the National Environmental Policy Act of 1969 (NEPA)⁹ further highlighted the problems of power plant licensing and nuclear waste management. In enacting NEPA, Congress intended to end crisis decisionmaking in areas affecting the "human environment" by requiring each federal agency to balance "to the fullest extent possible" environmental costs of a proposed action against economic and

7. Although the volume of commercial nuclear waste now being produced by reactors is small, it is estimated that the nation will need approximately 200,000 cubic feet of storage space by the year 2000 and 500,000 cubic feet by 2010. See 188 SCIENCE 345 (Apr. 25, 1975). In addition, military waste, having been produced since 1944 by "less sophisticated chemical methods" than current commercial waste, is beginning to leak from temporary holding tanks into the surrounding soil. See Farney, Ominous Problem: What To Do With Radioactive Waste, 5 SMITHSONIAN MAGAZINE 20 (April, 1974); 121 CONG. REC. 2622 (daily ed. Apr. 9, 1975) (remarks of Rep. Drinan). The problem of growing accumulation of nuclear waste is only one facet of the waste disposal issue. Of even greater importance is the fact that minute quantities of radioactive waste are highly toxic.

8. See note 7 supra. High-level radioactive wastes, which are produced by the reprocessing of spent fuel from nuclear reactors, must be isolated from the biosphere for up to 250,000 years to be kept from endangering mankind. Plutonium-239, for example, has a half-life of nearly 25,000 years; it must be isolated for at least 250,000 years before its toxicity has decreased sufficiently for it to be released into the environment. Bethe, The Necessity of Fission Power, 234 SCIENTIFIC AMERICAN 21, 28 (January, 1976). Plutonium is thought to be one of the most toxic substances known; inhalation of a single dust particle is thought to cause lung cancer. Id. at 29. Two other radioisotopes which make up much of the radioactive waste from nuclear reactors are strontium-90 and cesium-137, with halflives of approximately 30 years; they must be isolated from the environment for 600 to 1000 years. See Farney, supra note 7. The main problem regarding radioactive wastes is that they must be isolated for a longer period than an existing civilization or government can plan effectively. The NRC and ERDA have suggested both long- and short-term projects for nuclear waste storage (e.g., retrievable surface repository; permanent disposal in underground salt beds), but all plans have proven to be unsatisfactory. See 188 SCIENCE 345 (Apr. 24, 1975); 190 SCIENCE 361 (Oct. 24, 1975). For example, one effort to build an underground radioactive waste storage facility in bedded salt layers was frustrated by the discovery of a large pocket of brine, containing toxic gases in solution. Such gases could present a safety hazard for construction workers or persons operating the facility. Also, the brine solution could indicate that fluids have been penetrating the area. Toxic nuclear wastes stored underground could escape to the surface in these penetrating fluids. See 190 SCIENCE 361 (Oct. 24, 1975).

9. 42 U.S.C. §§4321-4347 (1970).

^{6.} See Moore, The Environmentalist and Radioactive Waste, 49 CHI.-KENT L. REV. 55, 63-66, 79 (1972); Reis, Environmental Activism: Thermal Pollution—AEC and State Jurisdictional Considerations, 13 B.C. INDUS. & COM. L. REV. 633, 675-77 (1972); Comment, Radioactive Waste: A Failure in Governmental Regulation, 37 ALB. L. REV. 97, 129-30 (1972). See also 121 CONG. REC. 2622 (daily ed. Apr. 9, 1975) (remarks of Rep. Drinan).

technical considerations.¹⁰ The balancing process is to be carried out in a "detailed statement" prepared by each federal agency for proposals significantly affecting the quality of the environment.¹¹

Courts have held that the licensing of nuclear energy facilities sufficiently affects the environment to require such a "detailed statement" under NEPA.¹² Several issues have not been resolved by the courts,

10. Section 102 of NEPA provides:

The Congress authorizes and directs that, to the fullest extent possible:

(1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this chapter . . .

(2) all agencies of the Federal Government shall-

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by subchapter II of this chapter, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between the local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

42 U.S.C. §4332 (1970).

11. Id. NEPA also provides that the courts are to interpret "the policies, regulations, and public laws of the United States . . . in accordance with this Act." Id. Section 101 of NEPA declares a standard of using "all practicable means, consistent with other essential considerations of national policy" to carry out NEPA's mandate of environmental protection. This standard would seem to be less stringent than §102's "to the fullest extent possible" standard. However, case law indicates that the stricter §102 standard applies to the procedural duties to give full consideration to environmental issues. See, e.g., Calvert Cliffs' Coordinating Comm., Inc. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971), in which the court held that agency consideration of environmental matters "must be more than a pro forma ritual." 449 F.2d at 1128. Thus, even the nation's commitment to nuclear power must be weighed in light of NEPA's broad mandate of environmental protection. See Citizens for Safe Power, Inc. v. NRC, 524 F.2d 1291, 1299 (D.C. Cir. 1975).

12. See Calvert Cliffs' Coordinating Comm., Inc. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971). In Calvert Cliffs', the court of appeals remanded, for further rulemaking, the

however. For example, no judicial guidelines for evaluating the effects of radioactive wastes have been established for administrators in power plant licensing proceedings. In addition, the courts have provided no guidance concerning how thoroughly the environmental impact of nuclear waste should be examined in the public record.

The Circuit Court of Appeals for the District of Columbia recently addressed these issues in Natural Resources Defense Council, Inc. v. Nuclear Regulatory Commission.¹³ Natural Resources is a consolidation of two petitions for review, both concerning the manner in which reprocessing and disposal of nuclear wastes must be considered in power plant licensing proceedings. The first case involved an individual nuclear power facility, the Vermont Yankee Nuclear Power Station.¹⁴ In that proceeding, the Atomic Safety and Licensing Appeal Board¹⁵ held that licensing boards¹⁶ need not consider the environmental effects of nuclear waste management in individual hearings.¹⁷ The second case

Atomic Energy Commission's rules relating to power plant licensing. The court held that the licensing rules did not provide for "a wide variety of environmental issues." For example, the Atomic Energy Commission indicated in its rules that it would defer totally to the environmental quality standards of other agencies. The court held that the AEC must perform its own balancing test of environmental costs and economic and technical benefits for each proposed agency action significantly affecting the environment. Such consideration was found clearly to be compelled by NEPA. *Id.* at 1122-23.

- 13. 547 F.2d 633 (D.C. Cir. 1976), cert. granted, 45 U.S.L.W. 3553, 3554 (Feb. 22, 1977).
- 14. In re Vermont Yankee Nuclear Power Corp., 4 A.E.C. 930 (ALAB-56) (June 6, 1972).

15. The NRC has authorized the Atomic Safety and Licensing Appeal Board (ASLAB) "to exercise the authority and perform the review functions which would otherwise have been exercised and performed by the Commission." 10 C.F.R. §2.785(a) (1976). The ALSAB may certify to the NRC, or the NRC may review, *sua sponte*, "major or novel questions of policy, law or procedure." *Id.* §2.785(d) (1976). The court of appeals may review a final decision of the Atomic Safety and Licensing Appeal Board or of the NRC. 28 U.S.C. §2342(4).

16. In enacting the Atomic Energy Act of 1954, Congress provided that the Atomic Energy Commission was authorized to establish three-member atomic safety and licensing boards to grant or revoke power plant licenses. 42 U.S.C. §2241(a) (1970). Under the Energy Reorganization Act of 1974, "all orders, determinations, rules, regulations, permits, contracts, certificates, licenses, and privileges" made by the Atomic Energy Commission pursuant to its regulatory function were transferred to the Nuclear Regulatory Commission. 42 U.S.C. §5871(b) (Supp. V 1975). The NRC's regulations are located in 10 C.F.R. Parts 0-199 (1976).

17. In re Vermont Yankee Nuclear Power Corp., 4 A.E.C. 930 (ALAB-56) (June 6, 1972). No nuclear power plant may operate without an operating license. 42 U.S.C. §2131 (1970). Two separate proceedings comprise the "licensing" of a nuclear power facility. The first proceeding determines whether the NRC will issue a construction permit for the proposed nuclear reactor. A public hearing must be held after thirty days' notice in the Federal Register on each application for a construction permit. 42 U.S.C. §2239(a) (1970). The second proceeding determines whether the constructed facility should be licensed to operate. 42 U.S.C. §2235 (1970).

involved an informal rulemaking proceeding instituted to reexamine the waste management issues considered in the Vermont Yankee case.¹⁸

As a result of the rulemaking, the NRC concluded that the environmental impact of the nuclear fuel cycle is "relatively insignificant" with respect to an individual nuclear reactor,¹⁹ but decided nevertheless to factor such effects into the cost-benefit analysis for each proposed reactor. In accord with this conclusion, a rule was promulgated quantifying the environmental effects of the fuel cycle for an individual reactor, including the "insignificant" impact of waste management.²⁰ The rule required a series of numerical values to be factored into the initial costbenefit analysis for each facility.²¹ In addition, the rule provided that no further discussion of the environmental effects of the fuel cycle would

The procedure used to obtain a construction permit begins with the filing of an application for a permit with the NRC, accompanied by the applicant's Preliminary Safety Analysis Report and Environment Report. 10 C.F.R. §§50.30(f), 50.34(a), 50.30(e) (1976). The NRC staff and the Advisory Committee on Reactor Safeguards examine the application and accompanying reports and conduct meetings with the applicant to insure that the NRC's regulations are satisfied. 10 C.F.R. Parts 0-199 (1976). The staff prepares its own Draft Environmental Statement, which it circulates among federal or state agencies having jurisdiction or expertise in the areas of anticipated environmental impacts. The draft is also made available for public comment. 42 U.S.C. §4332(2)(c) (1970). The NRC's Final Environmental Statement includes comments received in response to the draft from reviewing agencies and the public. The NRC staff then must determine that the public health and safety is not endangered by the proposed facility, and that the power plant's potential benefits appear to outweigh social, economic and environmental costs. Following these determinations, the NRC must conduct a public hearing on the proposed construction permit. 42 U.S.C. §2239 (1976).

At the hearing, the Atomic Safety and Licensing Board reviews the application and supporting statements. The procedures used are specified in the Administrative Procedure Act and in the NRC regulations. 5 U.S.C. §558(c) (1970); 10 C.F.R. Part 2, Subpart G (1976). At the conclusion of the hearing the licensing board determines whether the permit should be issued and orders accordingly.

Once the nuclear plant is constructed, any additional information which will bring the application up to date must be filed. If the facility is found to be in conformity with the application and the NRC's rules and regulations, an operating license will be issued by the NRC. Any person whose interest may be affected by the granting of a license may request a hearing and will be admitted as a party to such proceeding. 42 U.S.C. §2239 (1970).

18. The rulemaking hearing was held on February 1-3, 1973, after publication of a Notice of Proposed Rulemaking, 37 FED. REG. 24191 (1972) and Notice of Hearing, 38 FED. REG. 49 (1973). Oral statements and questions by the hearing board were permitted by the NRC, but discovery and cross-examination were excluded. 38 FED. REG. 49 (1973).

19. 39 Fed. Reg. 14188, 14190 (1974).

20. The NRC described the environmental effects of the uranium fuel cycle as "relatively insignificant" in discussing its decision not to require retroactive application of the table of numerical values. *Id.*

21. 39 FeD. Reg. 14188, 14191 (1974). The rule is codified at 10 C.F.R. §51.20(e) (1976).

be permitted.²²

The Natural Resources court overturned the Appeal Board's findings in the Vermont Yankee case. The court held that the environmental effects of nuclear waste disposal and reprocessing must be reviewed in individual licensing proceedings, absent rulemaking proceedings effectively considering these issues.²³ As to the rulemaking case, the court found that the NRC's considerations of the waste disposal and reprocessing issues failed to meet NEPA's mandate of a careful and informed decisionmaking process.²⁴ The portions of the NRC's rule pertaining to nuclear waste management were set aside and remanded for more thorough ventilation of the issues.²⁵

Natural Resources is important because it is the first decision interpreting NEPA to require consideration of the environmental effects of nuclear waste management at the construction permit stage of reactor licensing. The decision is also significant in that it views NEPA as mandating rigorous judicial scrutiny of administrative records containing environmental issues.²⁶ That is, courts are to insure that agency decisionmaking processes comply with NEPA's substantive policy of environmental protection.²⁷ However, the actual procedural requirements of NEPA with respect to rulemaking are left somewhat unclear by the court in Natural Resources. The question whether NEPA does mandate a specific standard of rulemaking activity will be considered by the United States Supreme Court on review.²⁸

The purpose of this Note is to discuss the court's interpretation of NEPA's procedural and substantive requirements with regard to informal rulemaking in the environmental area. In addition, it will examine

26. Id. at 644-46, 654.

^{22. 39} Fed. Reg. 14188 (1974).

^{23. 547} F.2d at 641.

^{24.} Id. at 654-55. The order granting an operating license for the Vermont Yankee power plant was also remanded to await the outcome of further rulemaking proceedings. Id. at 641.

^{25.} Id. at 655.

^{27.} Id. at 645. Case law and NEPA's legislative history seem to be unanimous in supporting the view that NEPA sets a high standard for agency decisionmaking, which "must be vigorously enforced by the reviewing courts." See, e.g., Natural Resources Defense Council, Inc. v. Callaway, 524 F.2d 79 (2d Cir. 1975); Sierra Club v. Froehlke, 486 F.2d 946 (7th Cir. 1973); Scientists' Institute for Public Information, Inc. v. AEC, 481 F.2d 1079 (D.C. Cir. 1973); Environmental Defense Fund v. Army Corps of Engineers, 470 F.2d 289 (8th Cir. 1972); Natural Resources Defense Council, Inc. v. Morton, 458 F.2d 827 (D.C. Cir. 1972); Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971). See also Hearings on S.1075, S.237 and S.1752 Before Senate Committee on Interior and Insular Affairs, 91st Cong., 1st Sess. 116, 206, 296 (1969).

^{28. 45} U.S.L.W. 3553, 3554 (Feb. 22, 1977).

the impact of the *Natural Resources* decision upon future nuclear power plant licensing. Finally, this Note will analyze the argument that the court's lack of guidance for future rulemaking ultimately could destroy the advantages of informal rulemaking.

SIGNIFICANCE OF Natural Resources to Environmental Decisionmaking and Informal Rulemaking

Consideration of environmental values by federal agencies is mandatory under NEPA.²⁹ The Act insures the weighing of environmental factors by imposing procedural requirements designed to enforce the substantive policy of the Act.³⁰ An understanding of NEPA's relationship to agency rulemaking must precede a discussion of *Natural Resources'* significance to environmental decisionmaking.

A. NEPA and Informal Rulemaking

The minimum requirements for informal rulemaking³¹ by federal agencies are set out in §553 of the Administrative Procedure Act (APA).³² Such a proceeding is called "notice and comment" rulemaking

32. Administrative Procedure Act §4, 5 U.S.C. §553 [hereinafter referred to as APA §553] (the "minimum" rulemaking requirements) provides that:

(1) a statement of the time, place and nature of public rule making proceedings;

(2) reference to the legal authority under which the rule is proposed; and

(3) either the terms or substance of the proposed rule or a description of the subjects and issues involved . . .

^{29.} See note 10 supra.

^{30. 42} U.S.C. §4332(2)(c) (1970). See, e.g., Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d at 1112.

^{31.} There are two categories of rulemaking provided for in the APA, "formal" rulemaking (rulemaking required by statute to be made on the record after an opportunity for an agency hearing) and "informal" rulemaking. See 5 U.S.C. §§553(c), 556, 557 (1970). For a discussion of the significance of the phrase "on the record after opportunity for an agency hearing" to rulemaking, see United States v. Florida East Coast Ry., 410 U.S. 224 (1973) and United States v. Allegheny-Ludlum Steel Corp., 406 U.S. 742 (1972).

⁽b) General notice of proposed rulemaking shall be published in the Federal Register, unless persons subject thereto are named and either personally served or otherwise have actual notice thereof in accordance with law. The notice shall include—

⁽c) After notice required by this section, the agency shall give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments with or without opportunity for oral presentation. After consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose. . . .

because it requires publication of notice of proposed rulemaking in the *Federal Register*³³ and opportunity for interested persons to comment on the rule through "written data, views or arguments."³⁴ In addition, the APA requires that a statement containing the "basis and purpose" of the rule be incorporated into the final rule itself.³⁵ Case law has indicated that in rulemaking, agency officials acting within the scope of their authority have discretion to choose procedures they feel will produce an adequate record.³⁶ In fact, administrators may choose to implement rulemaking procedures in excess of the minimum "notice and comment" requirements.³⁷ Often, procedures such as cross-examination or interrogatories are borrowed from formal proceedings. Informal rulemaking with such adjudicatory procedures is known as "hybrid" rulemaking.³⁸

In the past few years, courts have imposed additional procedures upon informal rulemaking proceedings when certain issues and basic considerations of fairness were involved.³⁹ Moreover, courts have indicated

5 U.S.C. §553 (1970).

34. Id. "Opportunity to comment" does not necessarily mean "oral presentation." Under APA §553(c), it is within the agency's discretion to allow oral presentations.

35. Id.

36. See, e.g., SEC v. Chenery Corp., 332 U.S. 194, 203 (1947); Siegel v. AEC, 400 F.2d 778, 783 (D.C. Cir. 1968).

37. See, e.g., United States v. Florida East Coast Ry., 410 U.S. 224, 236 n.6 (1973); City of Chicago v. FPC, 458 F.2d 731, 774 (D.C. Cir. 1971), cert. denied, 405 U.S. 1074 (1972).

38. At its best, hybrid rulemaking combines the advantages of informal rulemaking (e.g., procedural flexibility; wide notification of proposed agency action; participation of interested parties in agency policy decisions; ability to declare law prospectively; efficiency; ability to look beyond record in order to draw upon agency expertise) with the advantages of case-by-case adjudication (e.g., maximum consideration of individual circumstances; temporary judgments subject to later adjustments; application of sanctions to wrongdoers whose harmful conduct was not foreseeable). See Verkuil, Judicial Review of Informal Rulemaking, 60 VA. L. Rev. 185 (1974); Note, The Judicial Role in Defining Procedural Requirements for Agency Rulemaking, 87 HARV. L. REV. 782 (1974). At its worst, hybrid rulemaking could develop into a method for delay or a bargaining tool, prevent high-level administrators or scientists from participating in agency proceedings, destroy agency flexibility to experiment with different procedures, or upset the balance between agency expertise and public participation. See Williams, "Hybrid Rulemaking" Under the Administrative Procedure Act: A Legal and Empirical Analysis, 42 U. Chi. L. REV. 401, 443-44 (1975); Wright, The Courts and the Rulemaking Process: The Limits of Judicial Review, 59 CORNELL L. REV. 375, 387-88 (1974).

39. See, e.g., O'Donnell v. Shaffer, 491 F.2d 59, 62 (D.C. Cir. 1974) (broad issues of public health and safety); International Harvester v. Ruckelshaus, 478 F.2d 615, 631 (D.C. Cir. 1973) ("soft" and sensitive subjects and witnesses); Appalachian Power Co. v. EPA, 477 F.2d 495, 503 (4th Cir. 1973) (nature and "drastic impact" of regulations); Friends of

^{33.} Id.

that a specific statutory provision for judicial review may imply a Congressional intent that courts assume an expanded role in reviewing agency rulemaking. Such provision also may imply a need for an expanded record.⁴⁰

Several courts have imposed procedures in excess of the APA minimum in cases involving environmental concerns.⁴¹ However, prior to

the Earth v. AEC, 485 F.2d 1031, 1032-33 (D.C. Cir. 1973) (possibility of imminent danger to life and health); Walter Holm & Co. v. Hardin, 449 F.2d 1009, 1016 (D.C. Cir. 1971) (imports and need for coordination with governmental foreign policy); American Airlines, Inc. v. CAB, 359 F.2d 624, 632 (D.C. Cir. 1966), cert. denied, 385 U.S. 843 (1966) (certain classes of cases).

Three important cases in which the court imposed additional rulemaking procedures based on fairness and the types of issues involved are American Airlines, Inc. v. CAB, Walter Holm & Co. v. Hardin, and International Harvester v. Ruckelshaus. In American Airlines, considerations of fairness were held to require additional procedures, such as oral hearings, in "certain classes of cases." 359 F.2d at 632. The hearings would be imposed solely for "the kind of factual issues which can best be determined in the light of oral hearings, without undue elongation of the proceeding or sacrifice of the expedition and flexibility available in rulemaking." Id. In Walter Holm & Co., fairness, imports and the need for coordination with government foreign policy mandated oral presentations to Department of Agriculture officials. 449 F.2d at 1016. In addition, the court stated that fairness "may require an opportunity for cross-examination on the crucial issues." Id. In International Harvester, the court held that "soft' and sensitive subjects and witnesses" might require opportunity for cross-examination. 478 F.2d at 631. Although the court found the Environmental Protection Agency's rulemaking procedures sufficient to give petitioners a meaningful opportunity to be heard on the policy issues, it remanded the case, allowing limited opportunity for cross-examination on specific technical issues "in the interest of providing a reasoned decision." Id. at 632. The court distinguished between imposing a general right of cross-examination, for which "there is not insignificant potential for havoc," and need for cross-examination on subjects "which could not be adequately ventilated under the general procedures." Id. at 631.

40. See, e.g., Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 385, 394 (D.C. Cir. 1973), cert. denied, 417 U.S. 921 (1974) (Clean Air Act); Mobil Oil Corp. v. FPC, 483 F.2d 1238, 1259-60 (D.C. Cir. 1973) (Natural Gas Act); Kennecott Copper Corp. v. EPA, 462 F.2d 846, 850 (D.C. Cir. 1972) (Clean Air Act); Scenic Hudson Preservation Conference v. FPC, 354 F.2d 608, 612 (2d Cir. 1965) (Federal Power Act). The decision in *Mobil Oil Corp.* is an example of judicial imposition of adjudicatory procedures in informal rulemaking pursuant to the interpretation of a federal statute. The *Mobil Oil* court concluded, from "an analysis of the regulatory scheme envisioned by Congress in passing the Natural Gas Act," that cross-examination or an effective substitute would create an adequate record for judicial review. 483 F.2d at 1262. Other courts have remanded rulemaking cases for additional procedures such as supplying implementing statements to inform the court as to the basis for the promulgation of particular air quality standards. *See, e.g.*, Portland Cement Ass'n v. Ruckelshaus, *supra*; Kennecott Copper Corp. v. EPA, *supra*.

41. See, e.g., Appalachian Power Co. v. EPA, 477 F.2d 495 (4th Cir. 1973); Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 385 (D.C. Cir. 1973); International Harvester v. Ruckelshaus, 478 F.2d 615 (D.C. Cir. 1973); Kennecott Copper Corp. v. EPA, 462 F.2d 846 (D.C. Cir. 1972).

Natural Resources, no case had interpreted NEPA to require additional rulemaking procedures. Most NEPA cases have involved faulty or nonexistent environmental impact statements, which is a violation of §102(2)(C) of the Act.⁴² When cases have been remanded for further rulemaking proceedings under NEPA, the specific procedures have been left to the agency's discretion.⁴³ For example, in *Calvert Cliffs' Coordinating Committee v. Atomic Energy Commission*,⁴⁴ the leading nuclear reactor licensing case, the Commission's rules were remanded because they did not consider a wide range of environmental issues as required under NEPA. The only criterion imposed by the court was that NEPA's mandate of a "careful and informed decisionmaking process" be carried out by the agency.⁴⁵ Seemingly, *Natural Resources* goes further in suggesting that NEPA itself cannot be met without the imposition of more stringent procedural guidelines.

B. Natural Resources Defense Council, Inc. v. Nuclear Regulatory Commission

In Natural Resources, the court held that the NRC violated NEPA's mandate of a "careful and informed decisionmaking process."⁴⁶ The court stated that the NRC's failure to address information contrary to its own position and to articulate its reasoning fully was arbitrary and capricious action.⁴⁷ Consequently, the court remanded the portions of the rule pertaining to the environmental impact of nuclear waste management.⁴⁸

Petitioners, Natural Resources Defense Council, Inc. and Consolidated National Intervenors, Inc.,⁴⁹ contended that the NRC's denial of discovery and cross-examination at the rulemaking hearing⁵⁰ violated

50. 38 FED. REG. 49 (1973).

^{42.} See note 10 supra. See also Natural Resources Defense Council, Inc. v. Callaway, 524 F.2d 79 (2d Cir. 1975); Scientists' Institute for Public Information, Inc. v. AEC, 481 F.2d 1079 (D.C. Cir. 1973); Natural Resources Defense Council, Inc. v. Morton, 458 F.2d 827 (D.C. Cir. 1972); Committee for Nuclear Responsibility, Inc. v. Seaborg, 463 F.2d 783 (D.C. Cir. 1971).

^{43.} See, e.g., Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971).

^{44.} Id.

^{45.} Id. at 1115.

^{46. 547} F.2d at 654.

^{47.} Id.

^{48.} Id. at 655.

^{49.} Consolidated National Intervenors is a group composed of approximately 80 public interest organizations and individuals. *Id.* at 637 n.2.

both due process and the NEPA requirement of a meaningful review.⁵¹ Petitioners argued that the court and participants had been deprived of "any effective means of determining whether the agency arrived at its decision in an informed and proper manner."⁵² In remanding, the court explained that it was more concerned that the agency's record thoroughly ventilated the issues of radioactive waste management than with the types of procedures the agency used.⁵³ Thus, the court left choice of rulemaking procedures to the agency, stating repeatedly that it had neither the authority to dictate agency procedures for developing an adequate record, nor the expertise to choose appropriate procedures.⁵⁴

However, the court did not state clearly why the issues had not been fully ventilated in *Natural Resources*. Were the procedures which the NRC had chosen inherently inadequate in arriving at a satisfactory record? Or were the procedures sufficient, but the NRC's manner of carrying them out inadequate? Was the court indicating that NEPA requires rulemaking procedures in excess of the APA minimum, and, if so, what did the court expect of the NRC in its future rulemaking activities?

The Natural Resources court could be saying that, while the NRC rulemaking procedures themselves were sufficient, the manner in which they had been performed did not meet NEPA's requirements. For example, the court stated that the original hybrid procedures chosen by the NRC could be used again on remand to develop the record "if administered in a more sensitive, deliberate manner."⁵⁵ On the other hand, the court did not specifically state that the procedures employed by the agency were adequate in themselves. The court simply stated that the procedures used "might" suffice.⁵⁶ The court then discussed, in a footnote, the fact that agencies "are always free to adopt 'hybrid procedures' beyond the minimum prescribed by 5 U.S.C. §553, and commonly do."⁵⁷

The lack of specificity shown by the majority could result in an agency imposing a full range of additional rulemaking procedures to avoid reversal. As Judge Tamm stated in his concurring opinion:

55. Id. at 653-54.

^{51.} Brief for Petitioners at 18-21, Natural Resources Defense Council, Inc. v. NRC, 547 F.2d 633 (No. 74-1586) (D.C. Cir. 1976).

^{52.} Id.

^{53. 547} F.2d at 644.

^{54.} Id. at 644, 645-46, 653. The court refers to FPC v. Transcontinental Gas Pipe Line Corp., 423 U.S. 326 (1976), in stating that it may not dictate procedures to the NRC for "fleshing out" the record. 547 F.2d at 644 n.26.

^{56.} Id.

^{57.} Id. at 654 n.58.

[T]he administrative response to overuse of judicial imposition of such ad hoc procedural refinements is easily foreseeable. Fearing reversal, administrators will tend to over-formalize, clothing their actions "in the full wardrobe of adjudicatory procedures," until the advantages of informal rulemaking as an administrative tool are lost in a heap of judicially imposed procedure.⁵⁵

Unfortunately, the court in Natural Resources did not give much direction to agencies for future rulemaking pursuant to NEPA's mandate of informed decisionmaking. The court stated only that the NRC must identify and address information contrary to its own position, articulate its reasoning, and specify the evidence on which it relies.⁵⁹ This type of decisionmaking must be discussed in the record.⁶⁰ The Natural Resources majority's lack of direction could have either a positive or negative impact upon agency rulemaking activities. While agencies may initiate numerous additional procedures to avoid reversal, ultimately destroying the advantages of informal rulemaking,⁶¹ it is possible that some advantages may ensue from utilizing procedures in excess of the APA minimum.⁶² For example, the use of procedural devices such as limited cross-examination and document discovery may encourage public participation in rulemaking and help to create a meaningful opportunity to be heard.⁶³ It also can be argued that the serious hazards inherent in nuclear waste management require thorough consideration, despite increased costs or delay.

A possible answer to this dilemma may be found in Chief Judge Bazelon's separate statement. There, the Chief Judge wrote that "courts should be reluctant to impose particular procedures on an agency, which would result in the loss of the advantages of informal rulemaking."⁴⁴ He

60. 547 F.2d at 654.

^{58.} Id. at 644.

^{59.} Id. at 660. Judge Tamm argues that the majority fails to provide sufficient direction to the NRC for the agency to comply with the court's mandate. Id. at 659. He favors remand for supplementation of the record, rather than reopening the oral proceedings. Id. Judge Tamm also states that the majority is requiring the NRC to institute rulemaking procedures in excess of the APA minimum. Id.

^{61.} Id. at 660 (Tamm, J., concurring). See also Wright, supra note 38, at 387-88.

^{62.} For the advantages and disadvantages of hybrid rulemaking, see note 38 supra.

^{63.} The Natural Resources court lists several devices which the NRC could have used to create "a genuine dialogue" on the nuclear waste management issue, including limited cross-examination, document discovery, funding independent research by intervenors, surveys of existing literature, and memoranda explaining methodology. 547 F.2d at 1653. For a good explanation of hybrid rulemaking devices used by the EPA in an effort to ensure challengers of rules a meaningful opportunity to participate in rulemaking, see Williams, supra note 38, at 448-55.

^{64. 547} F.2d at 655 (Bazelon, C.J., separate statement).

added that complex scientific or technical factual issues involving mathematical or experimental data might be "peculiarly inappropriate" for adjudicatory procedures.⁶⁵ On the other hand, certain interests, such as "[d]ecisions in areas touching the environment" which "affect the lives and health of all" are so important that they may require "a greater assurance of accuracy" than §553 notice and comment rulemaking can provide.⁶⁶ Thus, the Chief Judge of the Natural Resources court indicated the boundaries within which agencies are to exercise their discretion as to rulemaking procedures under NEPA. Agencies involved in environmental decisionmaking may choose §553 notice and comment procedures to develop factual issues for which adjudicatory procedures are inappropriate, or they may choose from a variety of "hybrid" proceedings to develop complex policy issues.⁶⁷ The important factor is not what procedures are chosen, but that the agencies' decisions fully address the complex issues involved in environmental decisionmaking.68 Hopefully, informed decisionmaking not only will implement NEPA's substantive policy, but also it will insure effective public participation in agency activities.

IMPACT OF Natural Resources upon the NRC's Licensing and Decisionmaking Process

What actual effect has *Natural Resources* had upon the NRC's nuclear power plant licensing process? Within a month of the court's decision, the NRC directed its staff to review the existing literature concerning nuclear waste management and to produce a revised and adequately documented analysis of the environmental costs of nuclear waste management attributable to an individual reactor.⁶⁹ The NRC suspended power plant licensing pending the staff's analysis.⁷⁰ The revised survey, completed three months after the *Natural Resources* decision was rendered, once again concluded that the environmental effects of nuclear waste disposal and fuel reprocessing are small with respect to an individual plant.⁷¹ Based upon the revised survey, a "proposed interim rule"

69. 41 FED. REG. 34707 (1976).

71. 41 FED. REG. 49898 (1976).

^{65.} Id.

^{66.} Id. at 656. Some issues are not appropriate for resolution by adjudicatory procedures because they involve speculation or arbitrary judgments, and are not susceptible to proof. See Murphy, The National Environmental Policy Act and the Licensing Process: Environmentalist Magna Carta or Agency Coup de Grace?, 72 COLUM. L. REV. 963, 990-91 (1972).

^{67. 547} F.2d at 657.

^{68.} Id. at 655-57.

^{70.} Id.

setting out a new series of values was suggested by the NRC for factoring into the cost-benefit analysis for each power plant.⁷² While these values were different from those contained in the original, remanded rule, they nevertheless indicated the NRC's conclusion that the environmental impact of nuclear waste management is insignificant for an individual reactor.⁷³ The NRC planned to resume the licensing of reactors, using the interim rule until the rulemaking proceedings mandated by the *Natural Resources* court were completed.⁷⁴

However, before the NRC had the opportunity to announce its proposal for an interim rule publicly, the court of appeals permitted the NRC to resume licensing on a conditional basis, pending the outcome of Vermont Yankee Power Corporation's petition for writ of certiorari.⁷⁵ As a result, the NRC decided to resume licensing on the conditional basis suggested by the court.⁷⁶

At this time, the NRC plans to use both the original rule and the proposed interim rule in its licensing determinations.⁷⁷ If the values contained in the interim rule tilt the cost-benefit analysis for a nuclear power plant against issuance of a license, the proceeding is to be suspended until further action by the NRC.⁷⁸ However, the Commission did not foresee a significant difference in result between the use of the remanded rule and the proposed interim rule.⁷⁹

73. Id.

74. 41 FED. REG. 45849 (1976). The interim rule, which is to be promulgated through notice and comment procedure, id. at 34708, is to be used for no longer than eighteen months. Id. at 45851. The NRC predicts that rulemaking procedures pursuant to the Natural Resources court's mandate will take approximately one year. Id. at 34707.

75. Natural Resources Defense Council, Inc. v. NRC, Nos. 74-1385, 74-1586 (D.C. Cir., Oct. 8, 1976). The petition for writ of certiorari was filed Sept. 21, 1976, two months after the *Natural Resources* decision was rendered. *See* Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc., 76-419, 45 U.S.L.W. 3285 (Oct. 12, 1976).

^{72. 41} FED. REG. 45849, 45850 (1976). A comment period was initiated by the NRC on the proposed series of values (called the "proposed interim rule" by the NRC). The comment period is to be followed by the promulgation of a final interim rule, through notice and comment rulemaking. 41 FED. REG. 34707, 34708 (1976). Finally, a public hearing is to be held to determine whether the final interim rule should be amended for future use in licensing. 41 FED. REG. 45849, 45851 (1976).

^{76. 41} FED. REG. 49898 (Nov. 11, 1976).

^{77.} Id.

^{78.} Id.

^{79.} Id. A question which must be examined is how the NRC will handle conditionally licensed power plants if the Supreme Court upholds the decision in *Natural Resources* to remand the NRC's original rule. Both the interim rule and the original rule will have been used to grant the conditional license. If the Supreme Court affirms the court's decision (that the original rule is invalid), then the rulemaking record of the interim rule also will have to be scrutinized for thorough ventilation of the issues. If the interim rule has been

It appears that the NRC plans to reopen its rulemaking proceeding for the purpose of supplementing the record on the fuel reprocessing and waste disposal issues.⁸⁰ The NRC also plans to determine whether, on the basis of the supplemented record, the original table of values should be amended, and if so, in what manner.⁸¹ The procedures to be used by the NRC are to be announced in a notice of hearing. The NRC has indicated that it may use the same procedures it used in promulgating the original rule,⁸² but it will exercise the reasoned decisionmaking mandated by the *Natural Resources* court.⁸³

CONCLUSION

Superficially, not much seems to have changed since Natural Resources was decided; the NRC is pursuing its licensing activities as usual. However, in addition to reopening its rulemaking process as a result of the Natural Resources decision, the NRC has announced that it is in the preparatory stages of developing a general regulatory framework for nuclear waste management.⁸⁴ Also, several cases have been reopened by parties seeking to litigate the issue of power plant licensing and radioactive waste management.⁸⁵

It is still too early to determine whether the NRC is carrying out the court's mandate in *Natural Resources* satisfactorily. Some critics have argued that the revised analysis fails to meet the court's order because it does not fully address the environmental impacts of a variety of nuclear wastes at different stages of the nuclear fuel cycle.⁸⁶ Others have

84. Id. at 34707 n.1.

86. House of Representatives subcommittee field hearing, 7 ENVIR. REP. (BNA) 779-80

promulgated consistently with Natural Resources, that rule undoubtedly will be used for granting power plant licenses until the final rulemaking proceedings are completed. If, however, the interim rule is found not to comply with the court's mandate in Natural Resources, then licenses will have to be granted on a case-by-case basis until the final rule has been promulgated, or until a satisfactory interim rule has been developed. The effect of case-by-case adjudication of individual proposals for licenses could be extremely timeconsuming for both the NRC and the nuclear power plant company, and could delay the construction of nuclear plants considerably. In addition, poorly-financed public interest groups and interested individuals might not be able to participate in all of the proceedings in which they are interested.

^{80. 41} Fed. Reg. 34707 (1976).

^{81.} Id.

^{82.} Id. at 34708.

^{83.} Id.

^{85.} See, e.g., Long Island Lighting Co. v. Lloyd Harbor Study Group, Inc., 45 U.S.L.W. 3435 (Dec. 14, 1976); Baltimore Gas & Electric Co. v. Natural Resources Defense Council, Inc., 45 U.S.L.W. 3349 (Nov. 9, 1976); Consumers Power Co. v. Aeschliman, 45 U.S.L.W. 3336 (Nov. 2, 1976).

stated that Congress may step in and enact new legislation setting radioactive waste controls if the NRC does not implement NEPA's requirements of full consideration of environmental issues such as waste management.⁸⁷ In any event, the court of appeals has indicated that it will settle only for a high level of decisionmaking on the part of the NRC in the area of nuclear waste disposal and fuel reprocessing. If the NRC attempts further rulemaking activities at a lesser level, it may find itself before the court once again. This time, however, the court may not stay its mandate to allow resumption of licensing based on an inadequately supported rule. If that occurs, licensing will have to take place on a caseby-case basis, resulting in a significant delay in the construction of nuclear power facilities.

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87. Id. at 780 (comments of subcommittee chairman Leo J. Ryan (D-Calif.)).

⁽Sept. 24, 1976) (comments of Richard Cotton, Natural Resources Defense Council, Inc. staff attorney).